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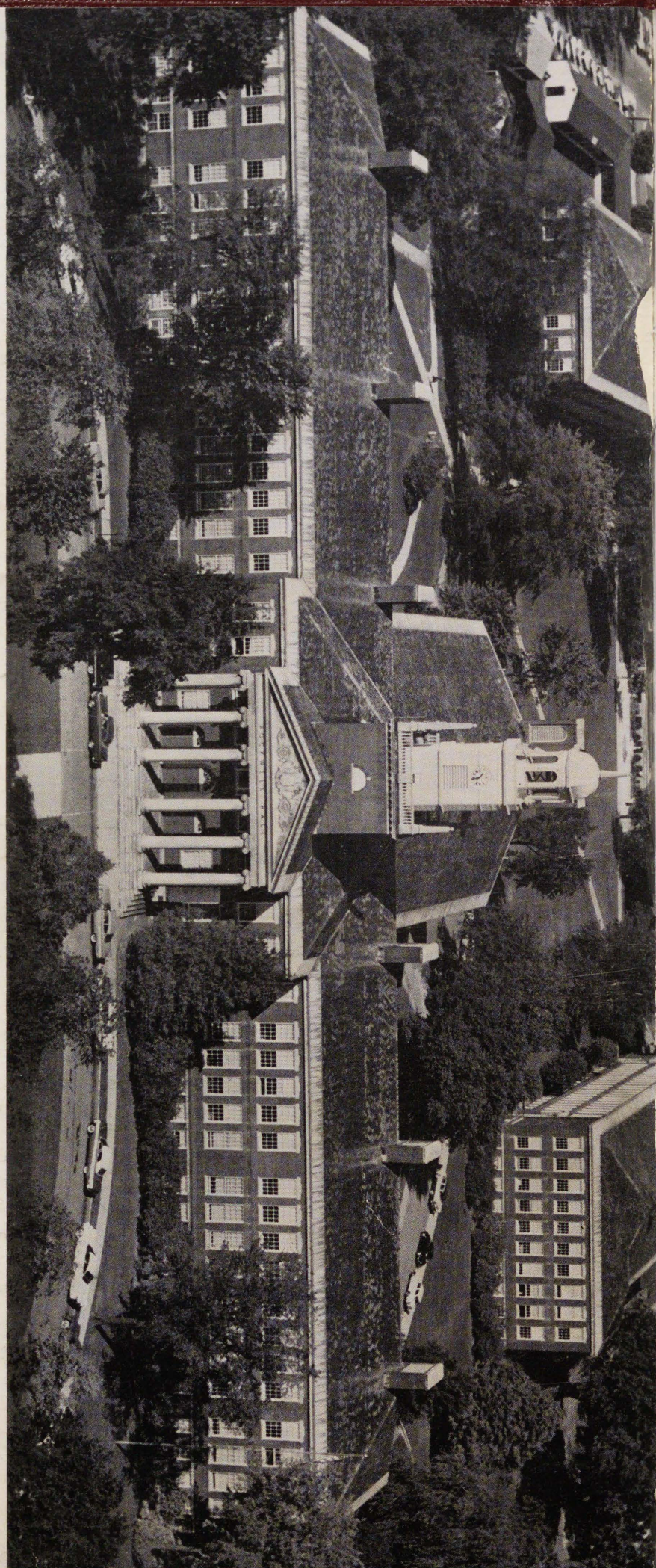
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STATE UNIVERSITY COLLEGE
1300 ELMWOOD AVENUE
BUFFALO, N. Y. 14222



GRADUATE
DIVISION
BULLETIN
1964 • 1965
**COLLEGE AT
BUFFALO**



UNIVERSITY OF NEW YORK

THE GRADUATE DIVISION CALENDER

FALL SEMESTER 1964

Saturday, September 14	Registration 8:30-12:00 noon—Rockwell Hall NO REGISTRATION AFTER THIS DAY
Saturday, September 19	Instruction begins
Saturday, October 3	No classes
Monday, October 12	No classes
Tuesday, November 3	No classes
Tuesday, November 24	Last day of classes before Thanksgiving recess
Monday, November 30	Classes resume
Tuesday, December 1	Pre-registration for spring semester begins
Saturday, December 19	Last day of classes before Christmas recess
Monday, January 4	Classes resume
Saturday, January 23	Semester ends

SPRING SEMESTER 1965

Saturday, January 30	Registration 8:30-12:00 noon—Rockwell Hall NO REGISTRATION AFTER THIS DAY
Saturday, February 6	INSTRUCTION begins
Saturday, February 20	Midyear commencement
Thursday, April 15	Last day of classes before Easter recess
Monday, April 26	Classes resume
Saturday, May 1	Pre-registration for Summer Session begins
Saturday, May 29	Semester ends
Saturday, June 5	Commencement



STATE UNIVERSITY OF NEW YORK
COLLEGE AT BUFFALO

GRADUATE DIVISION BULLETIN, 1964-1965

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STATE UNIVERSITY OF NEW YORK

The State University of New York was established by the State Legislature in 1948. It comprises 58 units: three university centers, two medical centers, a Graduate School of Public Affairs, twenty-four State colleges (18 four-year and 6 two-year), and 28 locally-sponsored two-year community colleges. Although separated geographically, all are united in the purpose to improve and extend opportunities for youth to continue their education beyond high school.

State University offers programs in the liberal arts and sciences; engineering; home economics; industrial and labor relations; veterinary medicine; ceramics, agriculture; forestry; maritime service; teacher education; law; pharmacy; medicine; dentistry; social work and business administration. The University's two-year programs also include liberal arts study and a wide variety of technical courses in such areas as agriculture, business, and the industrial and medical technologies.

Advanced graduate study at the doctoral level is offered by the University at 12 of its units, including the university centers and the Graduate School of Public Affairs. While graduate work can be pursued at 24 of the colleges, the programs at the majority of these units are now limited to the master's level. The University, however, is continuing to broaden and expand overall opportunities for advanced degree study.

Governed by a Board of Trustees appointed by the Governor, State University of New York plans for the total development of State-supported higher education. Each college and center of State University is locally administered. Students should write directly to the institution in which they are interested for admission forms.

The State University motto is:

"Let Each Become All He Is Capable of Being."

STATE UNIVERSITY OF NEW YORK

Board of Trustees

Frank C. Moore, LL.B., L.H.D., LL.D., Chairman	<i>Indian Lake</i>
Mrs. John A. Warner, Vice-Chairman	<i>New York City</i>
Warren W. Clute, Jr.	<i>Watkins Glen</i>
Mrs. Betty Hawley Donnelly	<i>New York City</i>
Lester B. Granger, A.B., D.H.L., LL.D.	<i>New York City</i>
Samuel Hausman	<i>Great Neck</i>
Morris Iushewitz	<i>New York City</i>
Edwin F. Jaeckle, LL.B., LL.D.	<i>Buffalo</i>
Clifton W. Phalen, B.S., LL.D.	<i>Plandome</i>
Mrs. Margaret T. Quackenbush, A.B.	<i>Herkimer</i>
John A. Roosevelt, A.B.	<i>Hyde Park</i>
James J. Warren, L.H.D.	<i>Albany</i>
Don J. Wickham, B.S.	<i>Hector</i>
Oren B. Root, A.B.	<i>New York City</i>

(One appointment pending)

<i>President of the University</i>	Samuel B. Gould, A.B., M.A., LL.D.
<i>Executive Vice President</i>	J. Lawrence Murray

THE COLLEGE

Local Council

Mrs. James H. Righter, Chairman	1972
Mrs. John R. Campbell	1971
Joseph L. Fink	1970
Joseph F. Higgins	1966
Patrick H. Hodgson	1967
David J. Laub	1969
Mrs. James C. Lytle	1965
Mrs. Henry Z. Urban	1968

(One appointment pending)

ADMINISTRATION

Paul G. Bulger, B.S., M.S., Ed.D.	<i>President of the College</i>
Richard L. Whitford, B.A., Dip.Ed., B.Ed., C.A.S., M.A., Ed.D.	<i>Assistant to the President and Director of International Education</i>
Houston T. Robison, B.S., M.S., Ph.D.	<i>Dean of Instruction</i>
Van E. Quaal, B.A., M.A., Ed.D.	<i>Associate Dean of Instruction</i>
Charles P. La Morte, B.A., M.A., Ed.D.	<i>Dean of Students</i>
Jerome E. Bartow, B.A., M.A.	<i>Associate Dean of Students</i>
Angela R. Palmieri, B.S., M.A.	<i>Associate Dean of Students</i>
E. William Baker, Jr., B.A., M.A.	<i>Director of Business Affairs</i>
James M. Caputi, B.A.	<i>Senior Financial Secretary</i>
Charles E. Ball, B.S., M.A., Ed.D.	<i>College Plant Planning Coordinator</i>
Silas R. Molyneaux, B.A., M.A.	<i>Director of Public Information</i>
Stanley A. Czurlles, B.F.A., M.F.A., Ph.D.	<i>Director of Art Education</i>
Walter B. Greenwood, B.A., M.A., Ph.D.	<i>Acting Director of Arts and Sciences</i>
Lorraine A. Lange, B.A., M.A., Ph.D.	<i>Director of Elementary Education</i>
Horace Mann, B.A., M.A., Ph.D.	<i>Director of Exceptional Children Education</i>
David A. Rogers, B.A., M.A., Ph.D.	<i>Director of Graduate Studies</i>
Margaret A. Grant, B.S., M.S., Ed.D.	<i>Director of Home Economics Education</i>
Sherman F. Dreyer, B.S., M.S., Ph.D.	<i>Director of Industrial Arts Education</i>
Allen G. Sexton, B.S., M.A., Ed.D.	<i>Director of Secondary Education</i>
Steven Gittler, B.A., M.A., Ed.D.	<i>Director of Summer Session</i>
Walter J. Zimmerman, B.S., Ed.M., Ed.D.	<i>Director of Vocational Technical Education</i>
Eddie E. Sage, B.A., M.A., Ed.D.	<i>Chairman of Education Department</i>
J. Stephen Sherwin, B.S., M.A., Ed.D.	<i>Chairman of English Department</i>
Alfred W. Becker, B.A., M.A., Ph.D.	<i>Chairman of Foreign Language Department</i>
Joseph A. Fekete, B.A., M.A., Ph.D.	<i>Chairman of Geography Department</i>
James L. Sells, B.S., M.S., Ed.D.	<i>Chairman of Health, Physical Education and Recreation Department</i>
Cecil T. Rodney, B.S., M.A., Ed.D.	<i>Chairman of Mathematics Department</i>
Silas L. Boyd, B.A., B.Mus.Ed., M.A., D.Mus.Ed.	<i>Chairman of Music Department</i>
Nicholas G. Fotion, B.S., M.A., Ph.D.	<i>Chairman of Philosophy Department</i>
Theodore E. Eckert, B.A., M.S., Ph.D.	<i>Chairman of Science Department</i>
Richard C. Brown, B.S., M.A., Ph.D.	<i>Chairman of Social Studies Department</i>
George R. Baeumler, D.D.S., M.D.	<i>College Physician</i>
Philip R. Bonner, B.S., M.A., Ed.D.	<i>Director of Admissions</i>
Joseph P. Cannamela, A.S., B.S.	<i>Food Services Manager</i>
Arthur B. Clark, III, B.A., M.A.	<i>Assistant Coordinator of Financial Aids</i>
Hilma M. Cook	<i>Executive Secretary, Alumni</i>
Dorothy B. Deering, B.S.	<i>Dietitian</i>
John M. Dodd, B.S., M.S., Ed.D.	<i>Director of Child Study Center</i>
Dorothy E. Eells, B.A., M.A.	<i>Registrar</i>
Charlot M. Fetterman, B.S.	<i>College Store Manager</i>
Caryl G. Hedden, B.S., M.S., Ed.D.	<i>All-College Coordinator of Student Teaching</i>
To be Appointed	<i>College Librarian</i>
Monica M. Gensbittel, B.S., M.S.	<i>Assistant Librarian</i>
Kathryn S. Graham	<i>Secretarial Assistant to the President</i>
Robert E. Johnson	<i>Corporation Accountant</i>
Elsie U. Kaye, B.A., B.Lit.	<i>Assistant to Director of Public Information</i>

Lenore Kemp, B.S., B.S.L.S.	<i>Associate Librarian</i>
Edna M. Lindemann, B.S., M.A., Ed.D.	<i>Coordinator of Special Projects</i>
Winifred G. Mernan, M.D.	<i>College Physician</i>
Mary Ann Monroe, B.S., M.S.	<i>Coordinator of Financial Aids</i>
John A. Palmer, B.S., M.A.	<i>Coordinator of Field Services</i>
James R. Pilkey, B.S.	<i>Admissions Counselor</i>
Isabelle Polder	<i>Secretarial Services</i>
Thomas J. Quatroche, B.S., M.S.	<i>Admissions Counselor</i>
Frances G. Rahn	<i>Secretary to the Dean of Instruction</i>
George R. Sherrie, B.S., Ed.M., Ed.D.	<i>Coordinator, Evaluation and Instructional Research Center</i>
Harold J. Steffen, B.S., Ed.M., Ph.D.	<i>Coordinator of Audio-Visual Education</i>
Benedict J. Surwill, Jr., B.S., M.A., Ed.D.	<i>Principal, Campus School</i>
Helen R. Thielking, B.S., M.S.	<i>Librarian, Campus School</i>
June H. Truesdale, B.S.	<i>Director of Placement</i>
Madeline K. Turner, R.N., B.S., M.A.	<i>Coordinator of Health Services</i>
Robert T. Tyler, B.S.	<i>Admissions Counselor</i>
William P. Walsh, M.D.	<i>College Physician</i>
Dorothy E. Womer, B.S., M.S.	<i>Director of Housing</i>

LOCATION OF THE COLLEGE

Buffalo is easily accessible by bus, train, air, or automobile; the College can be reached easily by bus or taxicab within the city. Across the street from the College are the Albright-Knox Art Gallery and the Buffalo Historical Museum, imposing works of architecture. Across Elmwood Avenue from the College is Delaware Park, a large municipal recreation center with a lake, golf course, bridle path, tennis courts and baseball diamonds. One of the finest concert halls in the world, the Kleinhans Music Hall, and a nationally famous symphony orchestra, the Buffalo Philharmonic, serve those who enjoy fine music.

LIBRARY FACILITIES

A collection of over 100,000 volumes and over 850 current periodicals is accessible in the Edward H. Butler Library. The Reference Reading Room and the Reserve Book Room afford areas for study and cultural reading. Recordings on musical and non-musical subjects are available for music appreciation, speech classes, and recreational listening. The microfilm editions of the *New York Times* and the *Buffalo Evening News*, periodicals and doctoral dissertations are available for reading with the necessary specialized equipment. Additional books and materials from the State Library at Albany are secured through inter-library loans. Special exhibits featuring topics of general interest to the college community are prepared by the faculty, students, and the library staff.

Graduate students may also use the resources of the Laboratory of Instructional Material consisting of story books, elementary school textbooks, pamphlets, slides, records, filmstrips, and pictures.

The Campus School Library in the Campus School contains a collection of books, magazines, recordings and filmstrips especially selected for children.

The Buffalo and Erie County Public Library, the Library of the Albright-Knox Art Gallery, the Library of the Historical Museum, and the Library of the Museum of Science, supplement facilities available on campus.

GENERAL INFORMATION

ACCREDITATION

The graduate program is fully accredited by the New York State Board of Regents, The National Council for Accreditation of Teacher Education, and the Middle States Association of Colleges and Secondary Schools.

GRADUATE CURRICULA

Graduate courses lead to the Master of Science in Education degree with majors in Art Education, Secondary Education, Elementary Education, Elementary Administration or Supervision, Exceptional Children Education, Home Economics Education, Industrial Arts Education, Vocational Technical Education.

CLASS SCHEDULES

At present there is no formal full-time graduate program. Graduate students may register for courses in late afternoon, evening and Saturday morning classes, and during the Summer Session. A student who wishes to complete the degree program in one calendar year should consult the Graduate Division Director.

OFF-CAMPUS CLASSES

Off-campus extension classes will be organized in convenient centers when requests received indicate sufficient interest to warrant establishing them. Teacher groups interested in the formation of off-campus courses should contact the Director of the Graduate Division as far in advance as possible. A minimum registration of twenty fee-paying students will be required for the organization of such off-campus classes.

ADMISSION

Admission to this college and to all other colleges of the State University of New York is based on the academic qualifications of the respective applicants, and is made without regard to the race, color, creed, or national origin of individuals.

Applicants meeting the following requirements are eligible for admission to the Graduate Division:

1. An acceptable academic and teaching record. An applicant must be able to present an undergraduate scholastic average of 2.3 or higher, an acceptable teaching record testified by a confidential statement from the administrator of the school wherein employed, and recommendations concerning academic and personal qualifications supplied by three persons in a position to make valid statements.

2. One of the following:

- A. An approved bachelor's degree and eligibility to teach in the elementary school or in a field of specialization in New York State. An *approved* bachelor's degree is one granted by a teachers college, liberal arts college, or university which is accredited by the National Council for Accreditation of Teacher Education, an appropriate regional accrediting agency, or a State University.
- B. An approved bachelor's degree and a desire to become certified to teach in New York State under the requirements of the Division of Teacher Education and Certification or an approved bachelor's degree and a teaching certificate from another state. All transcripts must be submitted to the Graduate Office for evaluation for certification requirements or eligibility for the same. Provisional New York State certification is required for admission to the graduate program. Completion of the master's degree requires permanent certification or eligibility for the same.

PROCEDURES BEFORE REGISTRATION

1. Secure an Application for Admission blank from the Director of the Graduate Division.
2. Return application, with all data required, before August 1, for registration in the fall semester; December 1, for registration in the spring semester; and, May 1, for registration in the Summer Session, in order to pre-register before courses close.
3. Furnish the Graduate Office with an official transcript from the college which granted the bachelor's degree. Transcript not necessary for graduate of this college.

PRE-REGISTRATION

Students may pre-register for graduate courses. Course rosters will be available in the Graduate Office, Rockwell Hall 224, beginning August 1 for the fall semester and December 1 for the spring semester. Consult the Summer Session Office for registration for the Summer Session.

Students may sign these rosters and thereby reserve a place in the class, if the student is eligible for the course. Eligibility will be determined by the instructor on registration day. Places will be held until 9:30 a.m. on registration day. Mail pre-registration will be accepted, *but no pre-registration by telephone will be permitted.*

ADMISSION TO FULL GRADUATE STATUS

Full graduate status is dependent upon: (a) completion of all credentials required for admission to the Graduate Division, and (b) approval of the Director of the Graduate Division.

APPOINTMENT OF AN ADVISOR

An adviser will be appointed after full graduate status is granted. Therefore, the student should complete credentials and secure full graduate status as soon as possible after application for admission to the Graduate Division is filed.

ADMISSION TO CANDIDACY

Filing an application for admission to candidacy for the master's degree is the personal responsibility of each student after he has completed a minimum of six hours. At the completion of *twelve* semester hours of graduate work, he *must* apply for candidacy *or* file with the Director of the Graduate Division a statement that he does not intend to become a candidate for a degree. If, subsequently, he decides to file for candidacy, he must, at that time, have an evaluation made of all work completed for the purpose of formulating a program leading to the master's degree.

ADMISSION TO CANDIDACY DEPENDS UPON:

1. A cumulative average of B or better in *all* courses taken for graduate credit. No work of D grade will be accepted.
2. A recommendation from the adviser of the candidate to the Director of the Graduate Division.
3. Effective January 1, 1965, the Graduate Record Examination Aptitude Test and appropriate advanced tests in the area of specialization will be required. Information on the Graduate Record Examination and other tests may be secured at the Graduate Office.

REQUIREMENTS FOR MASTER OF SCIENCE DEGREE

1. Completion of thirty-two semester hour program of graduate courses. The master's program permits a maximum of twelve hours in 400-level courses, usually in elective areas. Requirements in major areas must be taken in 500- or 600-level courses. A graduate student must consult with his division director or department chairman before registering for a 400-level course in his major area.
2. A cumulative average of B or better in *all* graduate courses completed in this college. Not more than nine hours of C, and no work of D grade, will be accepted toward the master's degree.
3. Completion of residence requirements. A course shall satisfy the requirements for residence if it is offered on the Campus, within the City of Buffalo, at a College Camp, or at a branch established by the College.
 - A. For graduates of this college—a minimum of twenty hours *in-residence* is required out of the total thirty-two.
 - B. For graduates of another college—a minimum of twenty-four credit hours *in-residence* is required out of the total thirty-two.

4. Non-resident credit. Non-resident credit is defined as transfer credit earned at another college or university or credits earned in off-campus courses in this college. Transfer credits can be accepted for courses taken at another college:
 - A. If they are evaluated as being equal in scope and content to those offered by this college.
 - B. If they form a coherent part of the required program of study.
 - C. If they have been completed within seven years prior to registration at this college.
 - D. If they are of A or B grade. Credits earned at another college with grades of C or D are not accepted for transfer to this college. Transfer credits are not included in the cumulative average.
5. Completion of all course work within six years of registration in first course.
 - A. Students holding full-time teaching positions are limited to a maximum of four credits per semester, or eight credits per academic year.
 - B. In Summer Session students are permitted to earn a maximum of two credits for a two-week program; three credits for a three-week program; six credits for a six-week program; and eight credits for an eight-week program.
 - C. No credit will be granted for work taken beyond these limits at this college or elsewhere.

SPECIAL STUDENTS

1. Students not intending to apply for admission to candidacy for the master's degree, may be permitted to register for courses in the Graduate Division as *special students*, with the understanding that credits earned will not necessarily count toward fulfillment of master's degree requirements.
2. A special student deciding to matriculate for the master's degree must request an evaluation of all graduate credits earned, complete the credentials required for full graduate status, and follow a program of graduate study planned by the Director of the Graduate Division to meet curriculum, grade and time-limit requirements. This includes the rule that all course work must be completed within six years from the date of registration in the first graduate course.
3. Not more than twelve semester hours may be earned by a special student unless a statement that he does not intend to become a candidate for the master's degree is filed with the Director of the Graduate Division.
4. An application must be secured and filed in the office of the Graduate Division before registration as a special student.

GRADUATE ACADEMIC REGULATIONS

ATTENDANCE

Attendance at all classes is required unless the student is excused by the instructor. A student may be excluded from a course if the instructor considers absences and tardiness to be too frequent for acceptable achievement.

WITHDRAWAL FROM COURSES

If a student finds it necessary to drop a course, he must notify the Graduate Office immediately that he is officially dropping the course. State University policy permits refunds of tuition, but not fees, for dropped courses. See schedule of tuition liability on page 12.

The students' records will be noted as follows:

1. W (before the end of the sixth class)
2. WP (after the sixth week, with passing grade)
3. WE (after the sixth week, with failing grade)
4. XE (course abandonment) Any student who abandons a course places his future continuation at this college in jeopardy.

GRADING SYSTEM

A	Above average graduate work	4 quality points
B	Average graduate work	3 quality points
C	Below average graduate work	2 quality points
D	Passing grade but not applicable for a degree	1 quality point
E	Failure	0 quality points
INC	Work incomplete because of reasons deemed justifiable by the instructor.	

REMOVAL OF AN "INCOMPLETE"

An "incomplete" must be made up within the following semester, not including the summer session. An "incomplete" not made up during this semester will automatically be recorded as an "E".

CUMULATIVE AVERAGE

A cumulative average of "B" or better in *all* graduate courses completed at this college is required for the master of science degree. The cumulative average is determined by dividing the total number of quality points earned by the total number of semester hours attempted. If a student has not earned a cumulative "B" average upon completion of 32 semester hours, he may be permitted to enroll for additional courses to the maximum number of 6 semester hours to attempt to make up his deficiency.

TUITION AND FEES

The State University of New York has authorized the collection of tuition and fees at a uniform rate. These are subject to change.

FALL AND SPRING SEMESTERS

Graduate Students

Tuition	\$20.00 a credit hour
College Fee	\$.85 a credit hour

Undergraduate Students

New York State Residents

Tuition	\$13.50 a credit hour
College Fee	\$.85 a credit hour

Out of State Students

Tuition	\$20.00 a credit hour
College Fee	\$.85 a credit hour

SUMMER SESSIONS

The schedule of tuition and fees listed above will also be in effect during the Summer Sessions plus the collection of a \$2.00 Student Activity Fee. This fee is reduced to \$1.00 for students who enroll only for one on-campus Post-Session workshop. Students whose entire summer session program will be held off-campus are exempt from the Student Activity Fee.

REFUNDS

A student who is given permission to cancel his registration shall be liable for payment of tuition in accordance with the following schedule:

SCHEDULE OF TUITION LIABILITY

Liability During	Semester	8 Week Term	6 Week Term
1st Week	0	0	0
2nd Week	30%	60%	70%
3rd Week	50%	80%	100%
4th Week	70%	100%	
5th Week	100%		

GRADUATE CURRICULA

The following curricula list the requirements for the Master of Science in Education degree in all divisions, effective Sept. 1, 1963. All students who begin graduate work after that date will meet these requirements. Students who began graduate work prior to Sept. 1, 1963 have the option of completing the requirements of the curricula in effect when they began or of completing the new requirements.

ART EDUCATION

COURSES IN TECHNICAL AND RELATED FIELDS

<i>Technical Courses:</i>	12-15 Sem. Hrs.
Art 601 Workshop in Art Education Materials, Processes, and Procedures	3 Sem. Hrs.
Art 607 Graduate Studio in Drawing and Painting	2-6 Sem. Hrs.
Art 608 Graduate Studio in Design and Spatial Organization ..	2-6 Sem. Hrs.
Art 609 Graduate Studio in Crafts ..	2-6 Sem. Hrs.
Art 610 Graduate Studio in Photography	2-6 Sem. Hrs.
Art 612 Graduate Studio in Sculpture ..	2-6 Sem. Hrs.
Art 613 Graduate Studio in Graphic Arts	2-6 Sem. Hrs.
Art 615 Graduate Studio in Community and Home Planning ..	
Art 615 Graduate Studio in Advertising and Illustration	
Art 453 Art Camp	2 Sem. Hrs.
Art 590 Special Study	2-4 Sem. Hrs.
Graduate Courses in the Practical Arts	2-6 Sem. Hrs.

<i>Courses in Related Fields:</i>	2-6 Sem. Hrs.
Art 450 Workshop in Using the Visual Language	3 Sem. Hrs.
Art 451 Seminar in Art in Human Affairs	2 Sem. Hrs.
Art 452 Workshop in Folk Arts	2 Sem. Hrs.
Art 506 Seminar in Contemporary Art ..	2 Sem. Hrs.
*Art 605 Seminar in Art Education ..	3 Sem. Hrs.
Art 590 Special Study	2-4 Sem. Hrs.

<i>RESEARCH</i>	2-6 SEM. HRS.
Ed. 595 Research Methods and Techniques	2-3 Sem. Hrs.
Art 690 Project	4 Sem. Hrs.
Art 695 Master's Thesis	6 Sem. Hrs.
(Each candidate, after a conference with his adviser, may select one of the above requirements.)	

<i>REQUIRED COURSES IN ARTS AND SCIENCE</i>	9-12 SEM. HRS.
Chosen by advisement from English, Geography, Mathematics, Music, Science, and Social Studies.	

<i>UNRESTRICTED ELECTIVES</i>	0-6 SEM. HRS.
<i>Total requirements</i>	32 Sem. Hrs.

* Required for master's degree in Art Education.

SECONDARY EDUCATION

The State University College at Buffalo offers graduate study leading to the degree of Master of Science in Secondary Education with majors in English, Mathematics, Science, or Social Studies. Science areas include Biology, Physics, General Science, Chemistry and Earth Science.

The student may take a major in mathematics and a minor in science, a major in science and a minor in mathematics, or a major and minor in two areas in science.

The student who completes the requirements for a Bachelor of Science degree in Secondary Education with a major and a minor in science or mathematics receives provisional certification until he completes the additional thirty-two hours for his master of science degree. The completion of the work provides permanent certification; however, the student may obtain permanent certification by completing thirty hours of prescribed graduate courses. This work must be completed within a period of five years after receiving the bachelor's degree.

THE TEACHING OF ENGLISH IN SECONDARY (JUNIOR AND SENIOR HIGH) SCHOOL

PREREQUISITES 42 SEM. HRS.

Undergraduate preparation including six hours in Composition and Communication, and preparation in writing, literary materials for adolescents, English Literature, American Literature and World Literature, speech.

REQUIRED COURSES 18 SEM. HRS.

A course in English Literature to be chosen from: 504, 520, 521, 523; American Literature: 502, 503, 510, 518, 522; General Literature: 506, 507, 508, 519, 533, 534, 535, 602; Language or Linguistics; 427, 600, 609

RESEARCH 2-6 SEM. HRS.

Required of all students who are candidates for the master's degree. Each candidate, after conference with his adviser, may select one of the following requirements.

Ed. 595 Research Methods and Techniques	2-3 Sem. Hrs.
Eng. 690 Project	4 Sem. Hrs.
Eng. 695 Master's Thesis	6 Sem. Hrs.
PROFESSIONAL EDUCATION	3 SEM. HRS.
Ed. 545 Teaching Reading in the Secondary School	3 Sem. Hrs.
UNRESTRICTED ELECTIVES	8 SEM. HRS.
Total Requirements	32 SEM. HRS.

THE TEACHING OF MATHEMATICS IN SECONDARY (JUNIOR AND SENIOR HIGH) SCHOOL

PREREQUISITES 24 SEM. HRS.

Undergraduate preparation including a minimum of 24 hours in mathematics courses selected by advisement from the following: College Algebra; Trigonometry; Analytic Geometry and Calculus I, II, III; Introduction to Modern Algebra; Linear Algebra; Modern Geometry; I, II; Differential Equations; Probability and Statistics I, II; Elementary Theory of Numbers; Advanced Calculus I; Numerical Analysis.

REQUIRED COURSES 18 SEM. HRS.

18 semester hours required in graduate mathematics courses selected by advisement.

RESEARCH

Required of all students who are candidates for the master's degree. Each candidate, after conference with his adviser, may select one of the following requirements:

Ed. 595 Research Methods and Techniques	2-3 Sem. Hrs.
Math. 690 Project	4 Sem. Hrs.
Math. 695 Master's Thesis	6 Sem. Hrs.

PROFESSIONAL EDUCATION 3 SEM. HRS.

Secondary Education Elective (Student may elect a course in mathematics in lieu of this requirement)

UNRESTRICTED ELECTIVES	8 SEM. HRS.
Total Requirements	32 SEM. HRS.

THE TEACHING OF SCIENCE IN SECONDARY (JUNIOR AND SENIOR HIGH) SCHOOL

PREREQUISITES 48 SEM. HRS.
Major Area of Specialization 24 Sem. Hrs.

Chemistry and Physics majors require, in addition, Differential and Integral Calculus.

Also required, one year in each of the sciences and in mathematics.

REQUIRED COURSES 18 SEM. HRS.

18 semester hours are required in graduate science and mathematics courses selected by advisement.

RESEARCH:

Required of all students who are candidates for the master's degree. Each candidate, after a conference with his adviser, may select one of the following requirements:

Ed. 595 Research Methods and Techniques	2-3 Sem. Hrs.
Sci. 690 Project	4 Sem. Hrs.
Sci. 695 Master's Thesis	6 Sem. Hrs.

PROFESSIONAL EDUCATION 3 SEM. HRS.

Secondary Education Elective (Student may elect a course in science in lieu of this requirement.)

UNRESTRICTED ELECTIVES	8 SEM. HRS.
Total Requirements	32 SEM. HRS.

THE TEACHING OF SOCIAL STUDIES IN SECONDARY (JUNIOR AND SENIOR HIGH) SCHOOL

PREREQUISITES 42 SEM. HRS.

Undergraduate preparation including at least six hours in United States History; six hours in European History; and the Social Science core of at least 24 hours, including a full year's work in four of the following 6 areas: Anthropology, Economics, Geography, History other than United States or European, Political Science, Sociology.

REQUIRED COURSES 18 SEM. HRS.

S.S. 601-2 Integration of the Social Studies	6 Sem. Hrs.
Social Studies Electives	12 Sem. Hrs.

RESEARCH:

Required of all students who are candidates for the master's degree. Each candidate, after conference with his adviser, may select one of the following requirements.

Ed. 595 Research Methods and Techniques	2-3 Sem. Hrs.
S.S. 690 Project	4 Sem. Hrs.
S.S. 695 Master's Thesis	6 Sem. Hrs.

PROFESSIONAL EDUCATION 3 SEM. HRS.

Secondary Education Elective (Student may elect a course in Social Studies in lieu of this requirement.)

UNRESTRICTED ELECTIVES	8 SEM. HRS.
Total requirements	32 SEM. HRS.

ELEMENTARY EDUCATION

REQUIRED PROFESSIONAL COURSES 9 SEM. HRS.

(Select one course from Group A and one course from Group B and one course from either A or B.)

GROUP A:

Ed. 411, 605	Evaluation Techniques in the Elementary School
Ed. 415	Seminar in Early Childhood Education
Ed. 527	Problems in Educational

Ed. 420, 620	Services for Young Children
or	Teaching the Language Arts in the Elementary School
Ed. 414, 614	The Teaching of Reading
Ed. 621	The Elementary School Curriculum
Ed. 418, 518	Workshop in Audio-Visual Education
Ed. 419, 619	Methods and Materials in the Elementary School
Ed. 502	Programmed Learning

GROUP B:

Ed. 509	Personality Adjustment in the Elementary School
or	
Ed. 519	Applied Mental Hygiene
Ed. 410, 606	Philosophy of Education
Ed. 541	Social Foundation of Education
Ed. 556	Group Dynamics
Ed. 540	Studies in Human Growth and Development
or	
Ed. 529	Adolescent Psychology
Ed. 523	Principles and Practices of Guidance
Ed. 412	Comparative Education

REQUIRED COURSES IN ARTS AND SCIENCES 12 SEM. HRS.
Chosen by advisement from Art, Eng-

lish, Geography, Mathematics, Music, Science and Social Studies

RESEARCH	5-9 SEM. HRS.
Ed. 595 Research Methods and Techniques	2-3 Sem. Hrs.
(Required of all candidates)	
(In addition, each candidate, after a conference with his adviser, will select <i>one</i> of the following requirements.)	
Ed. 601 Seminar in Elementary Education	3 Sem. Hrs.
Ed. 690 Project	3 Sem. Hrs.
Ed. 695 Master's Thesis	6 Sem. Hrs.

UNRESTRICTED ELECTIVES 2-6 SEM. HRS.
Total requirements 32 SEM. HRS.

ELEMENTARY PRINCIPALSHIP AND/OR SUPERVISION

Experienced teachers desiring the elementary school principal's provisional certificate should complete the bachelor's degree and six semester hours in Ed. 603 and 604. Candidates for the permanent certificate must complete the bachelor's degree and thirty hours in approved graduate courses including, in addition to Ed. 603 and 604, three to six hours in Ed. 607, 615, 621, or 552.

Experienced teachers desiring the elementary school supervisor's provisional certificate should complete the bachelor's degree and six semester hours in Ed. 630 and 631. Candidates for the permanent certificate must complete an additional twenty-four semester hours in approved graduate courses, six of which should be in Ed. 621 and 651.

REQUIRED PROFESSIONAL COURSES 12 SEM. HRS.
Ed. 603 Organization of the Elementary School 3 Sem. Hrs.

Ed. 604 Administration of the Elementary School	3 Sem. Hrs.
or	
Ed. 630 Principles of Supervision	3 Sem. Hrs.
Ed. 631 Supervision of Teaching	3 Sem. Hrs.
Education Electives	6 Sem. Hrs.

REQUIRED COURSES IN ARTS AND SCIENCES 8-10 SEM. HRS.
Chosen by advisement from Art, English, Geography, Mathematics, Music, Science, and Social Studies.

RESEARCH	2-6 SEM. HRS.
Ed. 595 Research Methods and Techniques	2-3 Sem. Hrs.
Ed. 690 Project	4 Sem. Hrs.
Ed. 695 Master's Thesis	6 Sem. Hrs.
(Each candidate, after conference with his adviser, may select <i>one</i> of the above requirements.)	

UNRESTRICTED ELECTIVES 4-10 SEM. HRS.
Total requirements 32 Sem. Hrs.

EXCEPTIONAL CHILDREN EDUCATION

MENTAL RETARDATION

REQUIRED COURSES	12 SEM. HRS.
By advisement from the following:	
*Ex.Ed. 401 Practicum in Mental Retardation	
*Ex.Ed. 403 Mental and Educational Measurements	
*Ex.Ed. 404 Curriculum Practices for Children with Mental Retardation	
*Ex.Ed. 408 Creative Arts for Mentally Retarded	
*Ex.Ed. 413 Nature and Needs of Exceptional Children	
Ex.Ed. 419 Teaching the Severely Retarded (Trainable)	
Ex.Ed. 420 Speech Problems of Children	
Ex.Ed. 508 Understanding the Problem Child in the Classroom	
Ex.Ed. 509 The Gifted Child	
Ex.Ed. 527 Guidance of Children who are Exceptional	
Ex.Ed. 590 Special Project	

REQUIRED COURSES IN ARTS AND SCIENCES 12 SEM. HRS.
Chosen by advisement from Art, English, Geography, Mathematics, Music, Science and Social Studies

RESEARCH	2-6 SEM. HRS.
Ed. 595 Research Methods and Techniques	2-3 Sem. Hrs.
Ex.Ed. 690 Project	4 Sem. Hrs.
Ex.Ed. Master's Thesis	6 Sem. Hrs.
(Each candidate, after conference with his adviser, may select <i>one</i> of the above requirements.)	

UNRESTRICTIVE ELECTIVES 2-6 SEM. HRS.
Total requirements 32 Sem. Hrs.

* These courses meet New York State certification requirements. Students seeking certification should consult with the Division Director before first registration.

ORTHOPEDIC HANDICAP

REQUIRED COURSES	12 SEM. HRS.
By advisement from the following:	
Ex.Ed. 403 Mental and Educational Measurement	
*Ex.Ed. 407 Practicum in Teaching Children with Orthopedic Handicap	
*Ex.Ed. 417 Curriculum Practices for Children with Orthopedic Handicap	
*Ex.Ed. 413 Nature and Needs of Exceptional Children	
Ex.Ed. 420 Speech Problems of Children	
Ex.Ed. 508 Understanding the Problem Child in the Classroom	
Ex.Ed. 509 The Gifted Child	
*Ex.Ed. 527 Guidance of Children Who Are Exceptional	
Ex.Ed. 590 Special Project	

REQUIRED COURSES IN ARTS AND SCIENCES 12 SEM. HRS.
Chosen by advisement from Art, English, Geography, Mathematics, Music, Science and Social Studies.

RESEARCH	2-6 SEM. HRS.
Ed. 595 Research Methods and Techniques	2-3 Sem. Hrs.
Ex.Ed. 690 Project	4 Sem. Hrs.
Ex.Ed. 695 Master's Thesis	6 Sem. Hrs.
(Each candidate, after conference with his adviser, may select <i>one</i> of the above requirements.)	

UNRESTRICTED ELECTIVES 2-6 SEM. HRS.
Total requirements 32 Sem. Hrs.

* These courses meet New York State certification requirements. Students seeking certification should consult with the Division Director before first registration.

SPEECH PATHOLOGY AND AUDIOLOGY

PREREQUISITES	16 SEM. HRS.
Science of Speech and Hearing	3 Sem. Hrs.
Phonetics	2-3 Sem. Hrs.
Speech Pathology	6 Sem. Hrs.
Speech Correction	3 Sem. Hrs.
Introduction to Audiology	3 Sem. Hrs.
(Substitution may be made for individual requirements provided the deficiency is corrected on the graduate level.)	

REQUIRED COURSES	12 SEM. HRS.
By advisement from the following:	
Ex.Ed. 413 Nature and Needs of Exceptional children	
Ex.Ed. 412 Audiometry and Hearing Aids	
Ex.Ed. 415 Speech Reading and Auditory Training	
Ex.Ed. 416 Seminar in Stuttering	
Ex.Ed. 506 Workshop in Education of Children with Hearing Impairment	

Ex.Ed. 609 Advanced Seminar in Voice and Articulation Disorders	
Ex.Ed. 612 Neuropathologies of Speech	
Ex.Ed. 616 Advanced Clinic in Speech and Hearing Disorders	
Ex.Ed. 590 Special Project	

REQUIRED COURSES IN ARTS AND SCIENCES	12 SEM. HRS.
Chosen by advisement from Art, English, Geography, Mathematics, Music, Science and Social Studies.	

RESEARCH	2-6 SEM. HRS.
Ed. 595 Research Methods and Techniques	2-3 Sem. Hrs.
Ex.Ed. 690 Project	4 Sem. Hrs.
Ex.Ed. 695 Master's Thesis	6 Sem. Hrs.

UNRESTRICTED ELECTIVES	2-6 SEM. HRS.
Total requirements	32 Sem. Hrs.

HOME ECONOMICS EDUCATION

TECHNICAL	10-12 SEM. HRS.
Clothing-Textiles	
Equipment	
Family Finance	
Family Life	
Foods-Nutrition	
Housing	
Management	

PROFESSIONAL	2-6 SEM. HRS.
H.Ec. 600 Seminar in Home Economics Education (Required)	
Evaluation	
Trends in Teaching Home Economics	
Homemaking Education for Adults	
Curriculum Planning in Home Economics	

REQUIRED COURSES IN ARTS AND SCIENCES	8-12 SEM. HRS.
Chosen by advisement from Art, English, Geography, Mathematics, Music, Science, and Social Studies.	

RESEARCH	2-6 SEM. HRS.
Ed. 595 Research Methods and Techniques	
H.Ec. 690 Project	
H.Ec. 695 Master's Thesis	
(Each candidate, after conference with his adviser, may select one of the above requirements.)	

UNRESTRICTED ELECTIVES	0-6 SEM. HRS.
Total requirements	32 Sem. Hrs.

VOCATIONAL TECHNICAL EDUCATION

COURSES IN AREA OF SPECIALIZATION AND RELATED FIELDS

Area of Specialization Education	12 SEM. HRS.
Required: V.T. 601, 602.	
And in addition a minimum of 8 hours in V.T. 603, 610, 615, 620, 630, 640, 645, 650, 655.	
Advanced Professional Education	8-10 Sem. Hrs.
V.T. 595 Research in Vocational Technical Education	2-4 Sem. Hrs.
(Required)	

V.T. 635, 660, 665, 670, and Educational Electives.

REQUIRED COURSES IN ARTS AND SCIENCES	8-10 SEM. HRS.
Chosen by advisement from Art, English, Geography, Mathematics, Music, Science, Social Studies.	

UNRESTRICTED ELECTIVES	0-4 SEM. HRS.
Total Requirements	32 SEM. HRS.

INDUSTRIAL ARTS EDUCATION

COURSES IN TECHNICAL AND RELATED FIELDS

Professional Education:	8-10 SEM. HRS.
I.A. 601 Seminar in Industrial Arts	2-3 Sem. Hrs.
I.A. 628 Industrial Arts Curriculum	2-3 Sem. Hrs.
I.A. 690 Master's Study	4 Sem. Hrs.
Technical Education:	8 SEM. HRS.
Chosen by advisement from the following: I.A. 508, 512, 513, 613, 615, 617, 618, 619, 621, 627, 629, 630, Art 610	

Professional and Technical Electives: 6-8 SEM. HRS.
Chosen by advisement from Education, Psychology, Industrial Arts

REQUIRED COURSES IN ARTS AND SCIENCES	8-10 SEM. HRS.
Chosen by advisement from Art, English, Geography, Mathematics, Music, Science, Social Studies	
Total requirements	32 Sem. Hrs.

FOREIGN STUDY PROGRAMS

In cooperation with The Experiment in International Living, the State University College at Buffalo will offer two Foreign Study Programs during the 1965 Summer Session:

COMPARATIVE EDUCATION: WESTERN EUROPE with
Professor Mildred C. Wells

STUDIES IN NON-WESTERN CULTURES: THE MIDDLE
EAST with *Professor Mohamed El-Behairy*

Each of these programs offers six semester hours of graduate or undergraduate credit in the appropriate divisional or department areas. For a detailed description and applications for these programs write to Dr. Richard L. Whitford, Director of International Education, State University College at Buffalo, 1300 Elmwood Avenue, Buffalo, New York, 14222.

COURSE NUMBERING SYSTEM

Effective September 1, 1963 the course number system has been revised as follows:*

400 courses—open to upper division undergraduate students and to graduate students if so designated in the catalog description. Additional work is required for graduate credit.

500 courses—open to graduate students only.

600 courses—open to graduate students only—generally limited to majors in the area or to others with sufficient preparation.

*Prior to Sept. 1, 1963 all graduate courses were numbered 500 and were limited to graduate students only.

COURSE DESCRIPTIONS

The following is a list of graduate courses offered at this college. Credit hours for courses listed will be indicated only for special workshops and seminars or in laboratory courses. In all other cases credit will be three semester hours in the summer session and two or three hours in fall and spring sessions. For exact credit to be earned consult the fall, spring or summer session schedules.

Courses at the 400 level are listed only by number and title; course descriptions may be found in the general college catalog. Graduate students should consult their division director or department chairman before registering in 400 courses in their major area or in 400 courses not listed in the graduate bulletin.

Eligibility for all graduate courses is determined by the instructor.

ART

*ART 450. WORKSHOP IN USING THE VISUAL
LANGUAGE (g)

*ART 451. SEMINAR IN ART IN HUMAN AF-
FAIRS (g)

*ART 452. WORKSHOP IN THE FOLK ARTS (g)

ART 453. ART CAMP (g)

**ART 454. HISTORIC AND CONTEMPORARY
ART IN EUROPE (g)

**ART 455. HISTORIC AND CONTEMPORARY
ART IN MEXICO (g)

**ART 456. EASTERN MEDITERRANEAN CUL-
TURES (g)

Additional 400 courses which may be taken for graduate credit will be found in the general catalog.

*ART 506. SEMINAR IN HISTORY OF ART
—CONTEMPORARY MOVEMENTS IN ART—
Trends in the arts of painting, sculpture, graphic arts, architecture, industrial art, commercial art, and crafts, related to developments in music, drama, and literature; lectures, readings, experiments and demonstrations; visits to galleries, studios, and plays.

* Acceptable as Arts and Sciences electives in all curricula except Art Education; acceptable in Related Fields in Art Education Curriculum.

** Partial credit as Arts and Sciences electives can be arranged.

ART 511. ART IN THE ELEMENTARY CUR-
RICULUM—The use of art materials, processes, and procedures in the elementary school; developing creative and expressive activities of children.

ART 590. SPECIAL PROJECT—Research or in-
vestigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

ART 601. WORKSHOP IN ART EDUCATION
MATERIALS, PROCESSES, AND PROCEDURES
—Analysis and experiment with materials and processes significant to community, school, and group activities.

ART 605. SEMINAR IN ART EDUCATION—
Problems and projects in teaching and supervising art in various types of communities and schools; contemporary philosophy, psychology, principles, and practices in art and general education; research and scientific methods in determining programs, policies, and procedures for the art teacher and supervisor. Required of all Art Education majors. Prerequisite one or more years of teaching.

ART 607. GRADUATE STUDIO IN DRAW-
ING, PAINTING—Individual activities with a variety of drawing and painting media determined for each individual according to his background and needs; studio and outdoor problems, field and gallery trips.

ART 608. GRADUATE STUDIO IN DESIGN AND SPATIAL ORGANIZATION—Individualized designing with paint and materials; specialization may be in home planning and furnishing, costume, textile, stage, commercial or industrial design.

ART 609. GRADUATE STUDIO IN CRAFTS—Individualized work in textiles, jewelry, leather, woodcarving, sculpture, plastics, pottery, and metal.

ART 610. GRADUATE STUDIO IN PHOTOGRAPHY—Photographic processes; black-and-white and color photography as a form of expression, as commercial art, as a form of recording, and as used in the making of teaching aids and publications.

ART 612. GRADUATE STUDIO IN SCULPTURE—Sculpture as a means of individual and group expression; theory and processes using media such as wood, stone, plaster, cement block, and metal.

ART 613. GRADUATE STUDIO IN GRAPHIC ARTS—Individualized work in lithography, wood engraving, etching, serigraphy, dry point, engraving.

ART 615. GRADUATE STUDIO IN COMMUNITY AND HOME PLANNING—Functional, aesthetic, geographic, economic, social and political factors affecting design of home, school, and community; designing and re-designing homes, special facilities, communities.

ART 616. GRADUATE STUDIO IN ADVERTISING AND ILLUSTRATION—Development of explicit communications in illustration and design using realistic, experimental and expressive approaches; preparation of art work for illustration, reproduction, and publication in magazines, newspapers or books; investigation of materials and techniques in black and white, color, line and tone, particularly suited to reproduction standards.

ART 690. PROJECT—A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Division.

ART 695. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to the directions given by the Graduate Division.

EDUCATION

ED. 400. ELEMENTARY STATISTICS (g)

ED. 403. HISTORICAL AND PHILOSOPHICAL FORCES INFLUENCING SECONDARY EDUCATION (g)

ED. 411. EVALUATION IN THE ELEMENTARY SCHOOL (g)

ED. 412. COMPARATIVE EDUCATION (g)

ED. 414. THE TEACHING OF READING (g)

ED. 415. SEMINAR IN EARLY CHILDHOOD EDUCATION (g)

ED. 416. SAFETY EDUCATION (g)

ED. 417. DRIVER EDUCATION (g)

ED. 418. AUDIO-VISUAL EDUCATION (g)

ED. 419. METHODS AND MATERIALS IN THE ELEMENTARY SCHOOL (g)

ED. 420. TEACHING THE LANGUAGE ARTS IN THE ELEMENTARY SCHOOL (g)

ED. 423. COMPARATIVE EDUCATIONAL SYSTEMS: WESTERN EUROPE (g)

ED. 424. PEOPLE & INSTITUTIONS IN INDIA (g)

ED. 502. PRACTICUM IN PROGRAMMED INSTRUCTION—The use of teaching machines and programmed instruction, programming techniques and means of evaluating programs. Laboratory experiences.

ED. 508. SUPERVISION OF STUDENT TEACHING—Clarifying responsibilities of sponsor teachers; planning effective conferences with students; developing ways of helping students evaluate their own growth; keeping diversified records; clarifying long and short term planning; helping students plan learning experiences.

ED. 509. PERSONALITY ADJUSTMENT IN THE ELEMENTARY SCHOOL—Dynamics of human behavior; prevention of maladjustment; corrective programs; formation of habits and attitudes; recent clinical research.

ED. 518. WORKSHOP IN AUDIO-VISUAL EDUCATION—Audio-visual teaching methods, application, integration and evaluation; knowledges and skills in use of equipment; new media, ETV, self-instructional devices; sources of materials and equipment; audio-visual programs in schools, communities, states, fed-

eral; film libraries; ordering of materials; budgets and administration, evaluation of program. Prerequisites: ED. 418 or equivalent.

ED. 519. APPLIED MENTAL HYGIENE—Principles of mental hygiene and their application to personality development, emotional and social adjustment, and human relationships; application of mental hygiene principles to processes of teaching, pupil learning, classroom management, and conduct of the teacher in lay and professional relationships.

ED. 523. PRINCIPLES AND PRACTICES OF GUIDANCE—The philosophy of guidance, its place in present education; identifying interests, and attitudes, and understanding problems of the age group and individuals; techniques of counseling and methods of investigation; the role of the teacher, specialist and administrator in guidance; school, home, community resources in a guidance program.

ED. 527. PROBLEMS IN EDUCATIONAL SERVICES FOR YOUNG CHILDREN—Current social and economic trends affecting the lives of young children; curriculum contributions for developing individual and group living; educational problems confronting teachers in this specialized field. Open to undergraduates with consent of instructor.

ED. 528. HUMAN RELATIONS — Inter-group problems relating to race, religion, or national origin; slow and rapid learners; old and new residents; "fringers" and participants; competitive practices in school; dividing and integrating factors affecting learning.

ED. 529. ADOLESCENT PSYCHOLOGY—Characteristics and problems of adolescents in our society; relationship of adolescent behavior to earlier development; special provisions of the early secondary school for this age group. By advisement for students preparing for secondary school teaching. Prerequisite: six semester hours in Human Growth and Development or its equivalent.

ED. 532. SECONDARY SCHOOL EDUCATION—Origin and functions of secondary education; curriculum patterns; guidance and exploratory programs; articulation between elementary school and senior high school; extra-curricular activities; evaluation in the sec-

ondary school; research methods in solving problems listed above and others suggested by students. Required of students extending certification to teach in early secondary schools.

ED. 535. METHODS OF TEACHING SECONDARY SCHOOL SCIENCE—Objectives of science teaching; methods of reaching those objectives; evaluation of the results of science teaching. Not for students who have credit for ED. 318, ED. 328, or equivalent. Otherwise required for persons who wish to be certified to teach sciences. Lectures, discussions, and role experience.

ED. 536. SECONDARY SCHOOL PROBLEMS AND METHODS—Objectives of secondary school education; basic principles of learning and motivation; curriculum concepts; organizing learning experiences; providing for individual differences; teacher-pupil planning; selecting and organizing learning materials; audio-visual aids to learning; utilizing school, civic, and community resources; status and practice of the core-curriculum; nature and purposes of resource units; evaluating pupil growth. Required of students extending certification to teaching in early secondary schools.

ED. 537. EVALUATION IN THE SECONDARY SCHOOL—Relationship of evaluation to instructional objectives; selecting, administering, scoring, recording and interpreting standardized and teacher-made instruments for evaluating mental abilities, educational achievements, personality characteristics, interests and aptitudes; diagnosis, guidance counseling and improving instruction; organizing programs to provide for individual differences; modern practices in recording pupil progress; statistical concepts and methods of collecting, tabulating, and interpreting data.

ED. 539. WORKSHOP IN TEACHING SPANISH IN THE ELEMENTARY GRADES—Spanish conversation; Spanish civilization; observation and participation in a Spanish demonstration class in the Campus School; evaluation of text materials and other teaching aids.

ED. 540. STUDIES IN HUMAN GROWTH AND DEVELOPMENT—Research in child and adolescent growth; changing concepts in mental, emotional, social, and personality growth; planning, executing and evaluating "action research."

ED. 541. SOCIAL FOUNDATIONS OF EDUCATION—Relationships of school to society; contemporary social problems affecting education, social groups and institutions; school and community relations; nations; national, state and community organizations affecting educational programs and the development of social understandings in pupils.

ED. 542. SEMINAR IN SECONDARY SCHOOL CURRICULUM—Curricular and extra-curricular programs related to social, economic, and community changes; relationship of principles and procedures of curriculum development to educational objectives; relationship of extra-curricular activities to curriculum areas; adaptation of the curriculum to adolescent abilities, needs, and interests; various patterns of curriculum development; financing, organizing, scheduling, and supervising extra-curricular activities; bases for determining extent and type of student participation in school management.

ED. 545. TEACHING READING IN THE SECONDARY SCHOOL—Need of reading instruction in secondary school; nature of reading process; types of reading programs; reading instruction; planning an effective Secondary Reading Program.

ED. 547. CORE PROGRAMS IN THE EARLY SECONDARY SCHOOL—Nature of block-of-time and core programs, teacher-pupil planning, preparation of resource units, guidance and evaluation procedures.

ED. 548. WORKSHOP IN TEACHING FRENCH IN THE ELEMENTARY GRADES—French conversation; observation and participation in a French demonstration class in the Campus School; evaluation of text materials and other teaching aids.

ED. 552. LEGAL PROBLEMS OF EDUCATION—Foundations of Public School Law; legal problems arising out of the operation of the public school system; New York State Education Law; selected cases from state and federal courts; common law principles.

ED. 556. GROUP DYNAMICS IN EDUCATION—Theory and practice of group procedures in the school; development of understandings, skills and attitudes conducive to successful group leadership and participation; group study and evaluation; the school group in its sociological, psychological and philosophical setting. Laboratory experience.

ED. 557. TEACHING MATHEMATICS IN THE JUNIOR HIGH SCHOOL—Methods and materials relating to selected topics in the field of early secondary mathematics; analysis and evaluation of research and experimental materials; individual study of a problem and written report of findings; committee study and reports on problems.

ED. 564. ADVANCED DRIVER EDUCATION AND SAFETY—Course designed to fit the needs of Teachers of Driver Education courses now in practice in the secondary schools. Evaluation of Audio-Visual Aids, survey and evaluation of research studies in driver education, practice driving analysis, analysis and evaluation of diagnostic tests. Evaluation of techniques for improving practice driving instruction and project development. Teachers should have one year of teaching driving education on the secondary level before registering. Prerequisite: ED. 417.

ED. 565. WORKSHOP IN DRIVER EDUCATION AND TRAFFIC SAFETY—Teaching, administration and supervision of driver education and traffic safety programs; methods and materials; resource people and agencies; critical analysis of existing procedures; discussion of problems; field trips and lectures by leaders in the field. Prerequisite: ED. 417.

ED. 590. SPECIAL PROJECT—Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

ED. 595. RESEARCH METHODS AND TECHNIQUES—The scientific method, including various methods of research; an analysis of different types of research studies; procedures in developing a research paper; elementary statistical terminology; collecting, classifying, and evaluating data. Required of candidates for master of science degree not writing a thesis or completing a research project.

ED. 601. SEMINAR IN ELEMENTARY EDUCATION—The use of scientific educational research methods in studying problems in Elementary Education; the selection and discussion of current educational problems; the selection and development of a significant problem in student's area of interest and submission of a research paper. Required of Elementary Education candidates for the master of science degree. Prerequisite: ED. 595.

ED. 603. ORGANIZATION OF THE ELEMENTARY SCHOOL—Major concepts in Elementary Education; administration of the elementary school; the curriculum; grouping of pupils; the school plant; trends in school building design; co-curricular activities; pupil safety measures. Required for principal's provisional and permanent certification. Open to experienced teachers. Prerequisites: Completion of two years successful elementary school experience.

ED. 604. ADMINISTRATION OF THE ELEMENTARY SCHOOL—New York State educational system; legal aspects; school board, educational finance; responsibilities of the principal; business management, school plant management; plant maintenance; pupil transportation; pupil accounting; pupil counseling; teacher recruitment, selection, employment, assignment, orientation, evaluation, tenure and dismissal. Required for principal's provisional and permanent certification. Open to experienced teachers. Prerequisites: completion of two years successful elementary school experience.

ED. 605. EVALUATION IN THE ELEMENTARY SCHOOL—Evaluating growth of pupils; evaluation related to teaching objectives; informal, objective, and essay type tests; selection, administration and scoring of measuring instruments; study and use of different kinds of evaluation procedures; statistical methods in handling and interpreting data. Prerequisite: ED. 411.

ED. 606. PHILOSOPHY OF EDUCATION—Principles underlying educational practices; changing concepts of education; education in a democratic society; teaching procedures as determined by a democratic concept of education. Prerequisite: ED. 410.

ED. 607. GENERAL SCHOOL ADMINISTRATION—Principles of school administration; historical beginnings; national, state, and local responsibilities for education; district, township, and county administrative units; boards of education; school services: Health, supervision, research, library, and attendance; teacher selection, salary, tenure, inservice education; school building programs. Prerequisites: ED. 603, 604.

ED. 610. SEMINAR IN ELEMENTARY SCHOOL PROBLEMS—Methods and materials in language arts, science and mathematics for elementary school teachers. Open to students in the Intensive Teacher Training Program.

ED. 611. MUSIC AND ART IN THE ELEMENTARY SCHOOL—Activities and Experiments in various art materials suitable for elementary grades with emphasis on new processes and procedures; meets the classroom teacher's need in the field of music. Open to students in the Intensive Teacher Training Program.

ED. 612. SEMINAR IN CHILD DEVELOPMENT—Growth and development of children through the elementary school years; environmental factors which influence the child's development; the teacher's role in promoting desirable growth. Individual and group work on specialized problems; field trips and observations of children. Required of students in the Intensive Teacher Training Program. Prerequisite: ED. 660.

ED. 614. THE TEACHING OF READING—Importance of reading in present day society, research in child development and learning and its implication in the teaching of reading; trends in the teaching of reading; developmental levels of reading; reading in the content areas; methods and materials; evaluation and guidance of pupil growth in reading. Prerequisite: ED. 414.

ED. 615. WORKSHOP IN ELEMENTARY SCHOOL ADMINISTRATION—Selection, induction and guidance of new teachers; development of school-community relations; curriculum improvement; adjustment of school facilities to increasing enrollments; inservice education of staff personnel; elementary school problems suggested by the group. Prerequisites: ED. 603, 604.

ED. 619. METHODS AND MATERIALS IN THE ELEMENTARY SCHOOL—Advanced study of special problems related to the elementary school curriculum; practical application of curriculum material; study of current trends in adapting curriculum materials to individual differences; evaluative techniques and procedures. Prerequisite: ED. 419.

ED. 620. TEACHING THE LANGUAGE ARTS IN THE ELEMENTARY SCHOOL—Factors that influence language growth; interrelationship of the language arts skills of spelling, reading, speaking, writing, handwriting, listening; factors affecting creative writing, creative dramatics, choral speaking, and leisure reading; recent research in the areas of the language arts; developmental language arts program. Prerequisite: ED. 420.

ED. 621. THE ELEMENTARY SCHOOL CURRICULUM—Review of child nature, learning processes, purposes of the elementary school; conflicting philosophies and principles of curriculum development; types of curriculum organization; transitional steps; methods and materials; creative activities; mental health; community resources; individual differences.

ED. 630. PRINCIPLES OF SUPERVISION—Historical developments and changing concepts of supervision; principles of effective supervisory programs; types of administrative organization; maintaining staff morale. Prerequisite: completion of two years of successful elementary school experience.

ED. 631. SUPERVISION OF TEACHING—Principles of supervision; classroom observation; evaluating teaching; effect of teachers' purposes and research on choice of subject matter and teaching procedures; teacher-pupil relationships; group and individual conferences; induction of new teachers; intervisitation; demonstration teaching; teachers' meetings; bulletins; workshops; evaluation of program. Prerequisite: completion of two years of successful elementary school experience and ED. 630.

ED. 651. PROBLEMS IN ELEMENTARY SCHOOL SUPERVISION—Advanced study of special problems of supervision; the roles of the teacher and supervisor in the total school program; human relations; group dynamics; creative teaching; in-service education; teacher selection and evaluation; self-evaluation by teachers; educational leadership; role of special teachers. Required for permanent certificate in Elementary School supervision. Prerequisite: ED. 630, 631.

ED. 660. WORKSHOP IN ELEMENTARY EDUCATION—Introduction to objectives of Elementary Education, school procedures, instructional materials and methods; teaching experiences with children; understanding children and principles of learning. Required of students in the Intensive Teacher Training Program.

ED. 690. PROJECT—A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Division.

ED. 695. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

ENGLISH

ENG. 401. LITERATURE OF THE BIBLE (g)

ENG. 403. THE WORLD NOVEL (g)

ENG. 404. THE AMERICAN NOVEL BEFORE 1900 (g)

ENG. 405. CHAUCER AND HIS AGE (g)

ENG. 406. THE ENGLISH NOVEL (g)

ENG. 407. THE MODERN NOVEL (g)

ENG. 409. MILTON (g)

ENG. 411. SEVENTEENTH CENTURY ENGLISH POETRY (g)

ENG. 413. SEMINAR-TOUR IN AMERICAN LITERATURE (g)

ENG. 414. REALISM IN AMERICAN LITERATURE (g)

ENG. 415. PHILOSOPHY IN LITERATURE (g)

ENG. 416. STUDY-TOUR OF WESTERN EUROPE (g)

ENG. 422. VICTORIAN POETRY (g)

ENG. 423. VICTORIAN PROSE (g)

ENG. 426. EIGHTEENTH CENTURY ENGLISH LITERATURE (g)

ENG. 427. FOUNDATIONS OF LANGUAGE (g)

ENG. 502. STUDIES IN AMERICAN LITERATURE—Literary culture in America from the Colonial Period to the present; religious and political influences upon early writings; the Romantic Movement and Transcendentalism; realism and regionalism.

ENG. 503. REGIONAL AMERICAN LITERATURE—Literature of certain geographical and cultural areas of the United States: New England and Eastern, Southern, Western; folkways in American letters; local color and use of regional materials, particularly in fiction.

ENG. 504. ORIGIN AND DEVELOPMENT OF ENGLISH DRAMA—Liturgical beginnings of English drama: miracle and morality plays, interludes; rise of English comedy and tragedy; forerunners and contemporaries of Shakespeare.

ENG. 506. STUDIES IN MODERN DRAMA—Renaissance of drama in Europe and America; Ibsen and the play of ideas; realism, naturalism, symbolism, sociological drama.

ENG. 508. LITERATURE OF GREECE AND ROME—Reading in English translation and discussion of selected masterpieces; relationship to later literature in English and other modern languages.

ENG. 510. EMERSON AND THOREAU—Writing of Emerson and Thoreau against the background of European and American transcendentalism.

ENG. 514. STUDIES IN CHILDREN'S LITERATURE—Types of children's literature; criteria of book selection; reading interests of children; preparation of bibliography.

ENG. 518. MAJOR AMERICAN POETS—Nineteenth century poets of first rank and their contributions to a national literature.

ENG. 519. LITERATURE AND THE WORLD TODAY—Current ideas expressed through novels, plays, and critical reports; contribution of the magazine, newspaper and motion picture to the world's view of America.

ENG. 520. SHAKESPEAREAN TRAGEDY—Esthetic and philosophic qualities of Shakespeare tragedy studied in the playwright's mature plays; readings in Shakespeare criticism.

ENG. 521. STUDIES IN MODERN BRITISH POETRY—Significant trends and figures in British poetry since 1890; close study of two writers from the following group: Hardy, Housman, Yeats, Masfield, Eliot, and Thomas.

ENG. 522. STUDIES IN MODERN AMERICAN POETRY—Significant trends and figures in American poetry since 1912; close study of two writers from the following group: Robinson, Frost, Millay, H. Crane, Benet, and Jeffers.

ENG. 523. SHAKESPEAREAN COMEDY—Principal comedies from *Love's Labour's Lost* to *The Tempest*; backgrounds of Elizabethan comedy; Shakespeare's early and experimental work; later mature achievements with the comic idea in farce, high comedy, bitter comedy, and idealistic romance.

ENG. 528. SEMINAR IN CREATIVE DRAMATICS—History, philosophy, methods, and materials of informal playmaking with children; observation and participation.

ENG. 533. LITERATURE OF CONTINENTAL EUROPE: THE MIDDLE AGES—Reading in English translation representative works of the Middle Ages; importance of this literature as source material for later writers.

ENG. 534. LITERATURE OF CONTINENTAL EUROPE: THE RENAISSANCE—Petrarch, Boccaccio, Machiavelli, Castiglione, Ariosto, and others in English translation and their relation to the literature of England.

ENG. 535. LITERATURE OF CONTINENTAL EUROPE: THE NINETEENTH CENTURY—Reading in English translation of selected masterpieces; Rousseau and his disciples; romantic poetry, fiction, and drama; realism, naturalism, symbolism in the various types of literature.

ENG. 590. SPECIAL PROJECT—Research or investigation of a particular problem, to be planned and carried out, with guidance of instructor.

ENG. 600. STUDIES IN THE STRUCTURE AND FUNCTION OF LANGUAGE—Fundamental principles basic to all languages; theories of the origin of language; the nature and psychology of language; phonetics and phonetic change; alphabets and systems of writing; language types and families; word origins and changes in meaning.

ENG. 602. LITERARY CRITICISM—A survey of literary criticism past and present, with exercises in applying the student's critical skill to the study of specific works; individual student emphasis upon the study of a period, author, idea, or form.

ENG. 607. SECONDARY SCHOOL LITERATURE—Readings in prose and poetry appropriate to the secondary school; examination of the function of "literature for adolescents" in the secondary English program. Required of students extending certification to include English in secondary schools who have not had English 213.

ENG. 609. THE ENGLISH LANGUAGE—Historical development of the English language; political and social influences for change; growth of grammatical science and lexicography; contemporary problems of usage; semantics; trends in American English.

ENG. 690. PROJECT—Study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Division.

ENG. 695. THESIS—An individual investigation of an original problem to be submitted according to directions given by the Graduate Division.

EXCEPTIONAL CHILDREN EDUCATION

- EX.ED. 401. PRACTICUM IN MENTAL RETARDATION (g)
- EX.ED. 403. MENTAL AND EDUCATIONAL MEASUREMENT (g)
- EX.ED. 404. CURRICULUM PRACTICES FOR CHILDREN WITH MENTAL RETARDATION (g)
- EX.ED. 407. PRACTICUM IN TEACHING CHILDREN WITH ORTHOPEDIC HANDICAP (g)
- EX.ED. 408. CREATIVE ARTS FOR MENTALLY RETARDED (g)
- EX.ED. 412. AUDIOMETRY AND HEARING AIDS (g)
- EX.ED. 413. NATURE AND NEEDS OF EXCEPTIONAL CHILDREN (g)
- EX.ED. 414. INTRODUCTION TO AUDIOLOGY (g)
- EX.ED. 415. SPEECH READING AND AUDITORY TRAINING (g)
- EX.ED. 416. SEMINAR IN STUTTERING (g)
- EX.ED. 417. CURRICULUM PRACTICES FOR CHILDREN WITH ORTHOPEDIC HANDICAP (g)
- EX.ED. 419. TEACHING THE SEVERELY RETARDED (TRAINABLE) (g)
- EX.ED. 420. SPEECH PROBLEMS OF CHILDREN (g)
- EX.ED. 506. WORKSHOP IN EDUCATION OF CHILDREN WITH HEARING IMPAIRMENT — Practicum work under supervision with class of children having varying degrees of hearing impairment; from moderate to profound loss. Observation and participation; experimentation in techniques and materials.
- EX.ED. 508. UNDERSTANDING THE PROBLEM CHILD IN THE CLASSROOM—Personal and social factors as related to the problem child; case study of an individual pupil and group discussion of report. Enrollment limited to fifteen. Open to graduate students in any division.

EX.ED. 509. THE GIFTED CHILD—Study of the nature and needs of children who are gifted; examination of such provisions as acceleration, partial-segregation, enrichment, special classes; criteria for identifying; implications for classroom teacher.

EX.ED. 527. GUIDANCE OF CHILDREN WHO ARE EXCEPTIONAL—Education, social and vocational guidance of children who are exceptional because of intelligence, physical development, behavior, speech and hearing.

EX.ED. 590. SPECIAL PROJECT—Research or investigation of a particular problem to be planned and carried out by student, with consultation and guidance from instructor.

EX.ED. 604. WORKSHOP IN CURRICULUM FOR CEREBRAL PALSIED CHILDREN—Structured to encourage formulation of realistic curriculum for slow-learning cerebral palsied children in the elementary school grade range. Participants will be required to originate curricular proposals, working under guidance provided by workshop specialists. Prerequisites: EX.ED. 407 or equivalent.

EX.ED. 609. ADVANCED SEMINAR IN VOICE AND ARTICULATION PROBLEMS—Etymology and treatment of more severe voice and articulation problems. Cleft palate and esophageal speech. Investigation of current research. Prerequisite: EX.ED. 405.

EX.ED. 612. NEUROPATHOLOGIES OF SPEECH—Neuropathologies of speech etiology and clinical treatment of cerebral palsy, dysarthria, aphasia, and aphasoid speech problems. Prerequisite: EX.ED. 405.

EX.ED. 616. ADVANCED CLINIC IN SPEECH AND HEARING DISORDERS—Experience in the clinical diagnosis of speech problems and in the application of therapeutic procedures to severe speech problems. Prerequisite: EX.ED. 405.

EX.ED. 690. PROJECT—A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Division.

EX.ED. 695. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

FOREIGN LANGUAGES

- FRENCH 401. CONTEMPORARY FRENCH LITERATURE (g)
- FRENCH 404. FRENCH LITERATURE (g)
- LATIN 404. READINGS FROM ROMAN PHILOSOPHY (g)
- SPANISH 401. CERVANTES (g)
- SPANISH 402. SPANISH CLASSICAL DRAMA (g)

GEOGRAPHY

- GEOG. 402. MAP INTERPRETATION FOR TEACHERS (g)
- GEOG. 405. GEOGRAPHY OF THE MEDITERRANEAN WORLD (g)

GEOG. 500. GEOGRAPHY OF EASTERN ASIA—Physical and cultural geography of China, Japan, Korea, Mongolia, and the countries of southeast Asia; emphasis on the major economies and their relationships to the natural environment.

GEOG. 501. STUDIES IN INDUSTRIAL GEOGRAPHY—Study of man's major occupations and their relationships to the natural environment; emphasis on select topics in agriculture, manufacturing, and mining that are of world-wide significance.

GEOG. 503. STUDIES IN RESOURCE CONSERVATION—Principles of natural resource conservation; select problems in resource conservation: soil erosion, water pollution, destruction of forests, grasslands, and wildlife, flood control, and depletion of minerals; emphasis on conservation in the United States and New York State.

GEOG. 504. STUDIES IN THE GEOGRAPHY OF ANGLO-AMERICA — Regional divisions: landforms, climates, soils, natural vegetation, drainage, major economies; emphasis on the leading economies of each region and their relationships to the natural environment.

GEOG. 590. SPECIAL PROJECT—Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

GEOG. 690. PROJECT—A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Division.

GEOG. 695. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

HOME ECONOMICS

Home Economics courses at the 400 level which may be taken for graduate credit will be found in the General Catalog.

H.EC. 502. THE INDIVIDUAL AND THE FAMILY—A study of personality development in contemporary American family life. Emphasis on the family as an important factor in shaping the growth and adjustment of children, adolescents and adults. Recent research on child development in the family is considered. Designed for teachers who wish a greater understanding of their students and themselves.

H.EC. 503. FAMILY RELATIONSHIPS — The family viewed longitudinally; developmental tasks of family members at each stage of the family life cycle; research on marriage success and family crisis; attitudes, values, and standards regarding family living.

H.EC. 509. TEXTILES—A study of the newer developments in the field of textiles with particular emphasis on information for the consumer with regard to the selection, utilization and care of modern textiles.

H.EC. 510. HOUSING AND HOME FURNISHINGS—Problems related to housing and home furnishings; planning and construction furnishings; field trips.

H.EC. 516. FAMILY CLOTHING—Purchase, selection, care, and construction of clothing for the family; management of time and money as they relate to clothing problems; trips, speakers, discussions, demonstrations, and work on problems for which the individual feels a definite need.

H.EC. 519. HOME MANAGEMENT — Consideration of problems of the family in relation to the management of the home; speakers and consultants; home management house will serve as the laboratory.

H.EC. 520. FAMILY FINANCIAL PLANNING —Consideration of family financial problems; alternate choices in the light of family goals and values; examination and evaluation of available materials for use in teaching.

H.EC. 522. ISSUES IN THE MODERN AMERICAN FAMILY—Current educational, psychological and social issues and concerns of the modern American family examined and related to changing cultural values.

H.EC. 523. FIELD EXPERIENCES IN HOME ECONOMICS—Study of the functions of home experiences, criteria for evaluating directed home experiences, relationship of homemaking teacher, parents and pupils; community relationships; guidance and evaluation. Prerequisite: The student must be a teacher and must have taught at least one of the courses in the basic sequence, Homemaking 1, 2, 3 (preferably Homemaking 3) the year prior or be a newly hired teacher who is to teach at least one course in the basic sequence the following year.

H.EC. 590. SPECIAL PROJECT—Research or investigation of a particular problem to be planned and carried out by student, with consultation and guidance from instructor.

H.EC. 600. SEMINAR IN HOME ECONOMICS EDUCATION—Recent research and problems in the field of Home Economics Education; special problems selected by individual students from the area of Home Economics Education.

H.EC. 601. TRENDS IN TEACHING HOME ECONOMICS—Problems in teaching of Home Economics based upon individual needs and interests of workshop participants. Individual conferences; group discussion; joint activities. Prerequisite: one year of teaching experience.

H.EC. 604. ADVANCED FOODS—Recent research developments in foods and nutrition; problems in teaching foods and nutrition to elementary and high school groups; problems related to the individual's teaching situation.

H.EC. 606. ADVANCED HOME MANAGEMENT —Newer developments in the field of management in the home; problems met in teaching management in secondary and adult classes; individual work on problems in accordance with student needs.

H.EC. 607. EVALUATION IN HOME ECONOMICS EDUCATION—Techniques and instruments for identifying and appraising progress toward goals in home economics; methods of teaching appropriate to the achievements of these objectives; individual work on problems of evaluation encountered in teaching.

H.EC. 608. ADVANCED CLOTHING—Pattern making and dress design with particular reference to alteration problems met in clothing classes; garments made in class.

H.EC. 611. RESOURCES FOR TEACHING FAMILY RELATIONS—Role playing, panels, types of discussion, appropriate use of films, etc.; collection, critical evaluation, and use of materials for teaching family relationships at the secondary school level. Prerequisite or concomitant: A functional course in family relationships such as H.EC. 503, Family Relationships.

H.EC. 612. HOUSEHOLD EQUIPMENT—Survey and evaluation of developments in large and small equipment used in homes and schools; field trips, laboratory and demonstrations.

H.EC. 615. HOMEMAKING EDUCATION FOR ADULTS—A study of recent developments in homemaking education for adults. Discussion of problems which arise in adapting facilities, resources and in the organization of such groups.

H.EC. 617. RECENT TRENDS IN CLOTHING —Interpretation, use and evaluation of present trends in the teaching of clothing construction; emphasis on recent techniques and the importance of time and energy management; equipment which can simplify various construction processes.

H.EC. 621. CURRICULUM PLANNING IN HOME ECONOMICS—Offers an opportunity to study the planning of junior-senior high school homemaking curriculum; study of special needs of youth in this age level.

H.EC. 690. PROJECT—An undertaking pursued by one or more students on some problem closely related to the field of special interest. The project must be approved by the student's advisor and by the head of the division or department concerned.

H.EC. 695. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

INDUSTRIAL ARTS

Industrial Arts courses at the 400 level which may be taken for graduate credit will be found in the General Catalog.

I.A. 502. FIELD STUDIES RELATED TO INDUSTRIAL ARTS EDUCATION—Individual and group studies of industrial activities in the Niagara Frontier; the woodworking and fabrication trades; metal industries; plastic and fibre products; graphic arts; electrical, ceramic, airplane and automotive manufacture; conferences with representatives of industry and labor organizations.

I.A. 503. GUIDANCE SEMINAR IN LIFE ADJUSTMENT EDUCATION—Survey and evaluation of the educational movement leading to the Prosser Resolution; effects of the Life Adjustment Movement upon the schools in the various subject matter areas; implementation of the movement; reports of adaptation plans made in teaching situations.

I.A. 508. WELDING—Essentials of metallurgy for ferrous and non-ferrous metals as related to welding; proficiency in gas and electric arc welding, cutting, brazing, silver soldering and hard surfacing with special emphasis on certain non-ferrous metals, high carbon and special alloy steels, stainless and high chromium steels; inspecting and testing welds.

I.A. 512. TEXTILES—Organization and operation of an Industrial Arts textile unit study of fibers and materials; techniques of fabric construction; dyeing; surface finishing and treatment; color and pattern harmonies.

I.A. 513. CERAMICS—The Industrial Arts ceramics program; basic forming techniques; advanced processes of production in throwing and casting; decoration; firing and kiln construction; body and glaze composition; design of ceramic products.

I.A. 523. INDUSTRIAL ARTS IN THE ELEMENTARY SCHOOL—Functions of Industrial Arts in the elementary school; study of activities for the various grade levels; problems of equipment, organization, supplies; planning and executing units of work.

I.A. 590. SPECIAL PROJECT—Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

I.A. 600. WORKSHOP IN INDUSTRIAL ARTS —Problems in organizing and operating Industrial Arts programs at the elementary, junior, senior high school and adult levels.

I.A. 601. SEMINAR IN INDUSTRIAL ARTS—Discussion, research, reports on individual and group problems in Industrial Arts education. Required of Industrial Arts students registered for the degree of master of science.

I.A. 605. WORKSHOP IN INDUSTRIAL ARTS ADULT EDUCATION—A study of the adult education program including the objectives; state and local regulations; reimbursements; establishment of the needs of the community; the part that industrial arts plays in adult education.

I.A. 606. SUPERVISION OF INDUSTRIAL ARTS—Problems and techniques concerning administration and supervision of elementary, secondary and adult programs in industrial arts education at the federal, state, and local levels.

I.A. 607. SCHOOL SHOP PLANNING—Problems involved in planning new industrial arts shops or the remodeling of older shops: space allotments, area planning, service features, selection and placement of equipment, writing specifications, shop plans.

I.A. 609. HISTORY OF INDUSTRIAL ARTS—European antecedents; attempts to introduce technical instruction into American education; Russian Manual Training; Swedish sloyd system of instruction; the Arts and Crafts Movement; the Manual Arts movement; growth of the vocational concept in America; Industrial Arts as pre-vocational training; the social-economic

concept for Industrial Arts; Industrial Arts as the study of industry; Industrial Arts as the study of technology.

I.A. 613. CERAMICS—Advanced design in individual and duplicate methods of production; decoration, glazing, and firing; clays, glazes and kilns; individual problems; the school ceramics program. Prerequisites: I.A. 513 or equivalent.

I.A. 615. POWER TECHNOLOGY—Specialized areas of transportation; planning, organization and techniques of operation; projects and problems; evaluation; models, mock-ups and other visual aids.

I.A. 617. ELECTRONICS — Electronics in the junior and senior high school industrial arts program; advanced electronic theory and practice in communications; development of instructional materials, demonstration equipment; projects and visual aids.

I.A. 618. ELECTRONICS — Electronics in the junior and senior high school industrial arts program; advanced electronic theory and practice in communications; development of instructional materials, demonstration equipment, projects and visual aids.

I.A. 619. WOODWORKING—Carving, appliques and inlays; finishes, wood substitutes, wood bleaches and other more recent materials and techniques of the wood industries; individual problems of the in-service teacher.

I.A. 621. METALWORKING — New materials and their possibilities for industrial arts activities; investigation of modern industrial processes in metal working and their implications for the teaching of Industrial Arts.

I.A. 624. EVALUATION IN INDUSTRIAL ARTS—General principles of evaluation; construction and use of various informal devices and techniques of evaluation applicable to industrial arts; selection and use of appropriate standard instruments of evaluation; observation, rating scales, anecdotal records, personnel systems, and the industrial arts project; interpreting, recording and using the results of evaluation for the improvement of instruction.

I.A. 627. TELEVISION TECHNOLOGY WORKSHOP—Circuit analysis of television technology and the use of specialized laboratory equipment. Open to graduate students who have successfully completed the advanced radio and electronics courses.

I.A. 628. CURRICULUM DEVELOPMENT IN INDUSTRIAL ARTS—Philosophical foundation of Industrial Arts; current social, economic, and technological conditions; curriculum patterns and curriculum controls; course of study construction; approaches to teaching; program structure and evaluation.

I.A. 629. DRAFTING—Technical proficiency in specific areas of drafting; the program of drafting in the junior and senior high schools; governmental and industrial drafting standards; conventional and simplified drafting practices; evaluation of pupil progress in technical drawing.

I.A. 630. GRAPHIC ARTS—Experimentation in papermaking, ink, photography, halftones, color separation, photo-engraving; technical proficiencies in offset printing, publications, letterpress printing, silk-screen printing, bookbinding.

I.A. 690. MASTER'S STUDY—A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Division.

I.A. 695. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

MATHEMATICS

Mathematics courses at the 400 level may be taken only with the written approval of the chairman of the Mathematics Department.

MATH. 500. MATHEMATICS IN THE ELEMENTARY CURRICULUM—Development of number; rationale of processes; relationships; generalizations; meaning and significance of number and processes; mathematics as a language; measurement; problem solving; visual aids; professional literature; analyses and reports of readings; individual research and project. Prerequisite: MATH. 210 or 203 or equivalent.

MATH. 502. WORKSHOP IN MATHEMATICS—Selected topics in the field of elementary mathematics; analysis of research; individual study of a problem and written report of findings; committee study and reports on problems. Prerequisite: Math. 210 or 203 or equivalent.

MATH. 590. SPECIAL PROJECT—Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

MATH. 606. HISTORY OF MATHEMATICS—Chronological study of the development of elementary mathematics; national achievements of ages or periods; selected biographies; appraisals and critiques; problem studies.

MATH. 607. FOUNDATIONS OF MATHEMATICS—The axiomatic method; theory of sets and infinite sets; real number system and linear continuum; the complex number system; groups and their significance for the foundations; development of various viewpoints on foundations. Prerequisite: Differential and Integral Calculus.

MATH. 608. MATHEMATICAL STATISTICS—Introduction to statistical methods; probability and combinatorial methods; discrete distributions; distributions for continuous variates; ions; sampling, point estimation; multi-variate normal distribution; sampling, distributions; interval estimation; tests of hypotheses; regression and linear hypotheses. Prerequisite: Differential and Integral Calculus.

MATH. 609. THEORY OF NUMBERS—Counting and recording of numbers; properties of numbers; Euclid's algorithm; prime numbers; the aliquot parts; indeterminate problems and their theory; Diophantine problems; congruences; analysis of congruences; Wilson's theorem; Euler's theorem; theory of decimal expansions; the converse of Fermat's theorem; the classical constructional problems.

MATH. 610. MODERN ALGEBRA — Groups, integral domains, rings and fields; the field of real numbers; the field of complex numbers; polynomials; vector spaces; matrices and determinants.

MATH. 612. NON-EUCLIDEAN GEOMETRY—Historical development; hyperbolic plane geometry; elliptic plane geometry; topics from hyperbolic and elliptic trigonometry; consistency of non-Euclidean geometries.

MATH. 613. TOPOLOGY — Introductory set theory; transformations; topological equivalence; topological spaces; metric spaces.

MATH. 614. THEORY OF MATRICES—The algebra of matrices and determinants; equivalence, similarity and congruence relations on matrices; vector spaces; linear transformations; characteristic roots and vectors; applications.

MATH. 615. THEORY OF FUNCTIONS OF A REAL VARIABLE—Properties of sets; cardinal and ordinal numbers; real numbers; real functions, derivative of a function, and sequences of functions; measure and integration theory.

MATH. 616. THEORY OF FUNCTIONS OF A COMPLEX VARIABLE—Complex numbers; analytic functions; geometry of elementary functions; contour integrals; power series; conformal mapping of simply connected regions.

MATH. 690. PROJECT—A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Division.

MATH. 695. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

MUSIC

MUS. 400. AMERICAN FOLK MUSIC (g)

MUS. 403. DRAMATIC MUSIC (g)

MUS. 404. THE ART OF ENJOYING MUSIC (g)

MUS. 405. MUSIC LITERATURE FOR YOUNG LISTENERS (g)

MUS. 407. MUSIC HISTORY (ANTIQUITY TO 1800) (g)

MUS. 408. MUSIC HISTORY (1800 TO PRESENT) (g)

MUS. 410. AFRO-AMERICAN MUSIC (g)

MUS. 411. CONDUCTING (g)

MUS. 413. VOICE CULTURE AND REPERTORY (g)

MUS. 500. MUSIC IN EDUCATION—Public school music education; contributions of various composers and music educators to public school music and to general culture; required readings; listening to records; ideas on school assemblies.

MUS. 590. SPECIAL PROJECT—Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

SCIENCES

BIOLOGY

BI. 411. PARASITOLOGY (g)

BI. 503. EXPERIMENTAL GENETICS—A study of recent advances in the area of chemical genetics including the fine structure of DNA, enzyme inter-relationships and action. Statistical treatment of genetic data, and population genetics. Individual experimental work under direction of instructor. Prerequisite: one year of General Biology (BI. 111-112) or its equivalent and Genetics (BI. 203). General Physiology desirable. Four hours per week, including laboratory.

BI. 514. TAXONOMY OF VASCULAR PLANTS—Principles of classification; identification, techniques, and recent advances in the taxonomy of vascular plants. Prerequisite: 12 sem. hrs. in biological sciences; Plant Morphology desirable. Four hours per week, including laboratory.

BI. 601. RADIATION BIOLOGY—Mechanisms of radiobiological actions; high energy and ultra-violet radiations as biological tools, tracer techniques; genetic influences; tolerance. Prerequisites: 12 sem. hrs. in biological sciences; 6 sem. hrs. chemistry or physics. Four hours per week, including laboratory.

BI. 606. HISTOLOGY—Structural characteristics of normal tissues and organs of vertebrates; practice in methods of microtechnique. Prerequisite: 12 sem. hrs. in biological sciences. Four hours per week, including laboratory.

BI. 609. PLANT PHYSIOLOGY—Physiological processes in plants, including photosynthesis, respiration, osmosis, transpiration, effects of hormones, soil nutrients, and tropisms. Prerequisite: 12 sem. hrs. in biological sciences; 8 sem. hrs. in chemistry, or the equivalent of these. Four hours per week, including laboratory.

BI. 610. PROTOZOOLOGY—Morphology, physiology, and taxonomy of the protozoa; live cycles of selected free-living and parasitic species; importance in environmental inter-relationships and significance in

human problems. Prerequisite: 12 sem. hrs. in biological sciences. Four hours per week, including laboratory.

BI. 690. RESEARCH PROJECT IN BIOLOGY—A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Division.

BI. 695. RESEARCH THESIS IN BIOLOGY—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

CHEMISTRY

CH. 400. ADVANCED INORGANIC CHEMISTRY (g)

CH. 500. ADVANCED ORGANIC CHEMISTRY—Theoretical and mechanistic treatment of organic chemistry. Special Topics. Prerequisite: 1 year of Organic Chemistry.

CH. 501. ADVANCED PHYSICAL CHEMISTRY—A treatment of advanced topics in physical chemistry, including an introduction to the principles of the quantum theory and statistical mechanics, atomic and molecular spectra, and the modern valence theory. Prerequisite: one year of Physical Chemistry.

CH. 502. BIOCHEMISTRY II—Special topics in Biochemistry. Prerequisite: 24 sem. hrs. of Chemistry including one semester of Biochemistry, or consent of instructor.

CH. 690. RESEARCH PROJECT IN CHEMISTRY—A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Division.

CH. 695. RESEARCH THESIS IN CHEMISTRY—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

EARTH SCIENCE

E.S. 403. GEOLOGY OF NEW YORK STATE (g)

E.S. 404. OCEANOGRAPHY (g)

E.S. 600. FIELD GEOLOGY—Applications of geological principles and techniques in the interpretation of earth features in the field. Prerequisites: 18 sem. hrs. in earth sciences.

E.S. 601. ECONOMIC GEOLOGY—Origin, composition, alternation, and enrichment of ores, origin of fossil fuels and other non-metalliferous deposits; mineral resources of New York; conservation of geologic resources. Prerequisites: 18 sem. hrs. earth sciences, inorganic chemistry.

E.S. 603. ADVANCED GENERAL GEOLOGY—Current topics and recent literature involving geologic research. Prerequisite: 18 sem. hrs. in earth sciences.

E.S. 604. GEOLOGY OF NORTH AMERICA—Major physical provinces of the United States and adjacent areas with reference to their geologic history, structure and topographic development. Prerequisite: 18 sem. hrs. in earth sciences.

E.S. 605. GEOLOGY SEMINAR—Readings, reports, and discussion of current geological problems and research. Prerequisite: 24 sem. hrs. in earth sciences.

E.S. 690. RESEARCH PROJECT IN EARTH SCIENCE—A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Division.

E.S. 695. RESEARCH THESIS IN EARTH SCIENCE—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

PHYSICS

PH. 402. LABORATORY IN LIGHT (g)

PH. 603. NUCLEAR PHYSICS—Properties of atomic nuclei and related phenomena; nuclear models,

binding energy, nuclear forces. Prerequisites: 18 sem. hrs. of physics including PH. 405 or its equivalent and calculus or permission of the instructor.

PH. 604. SPECTROSCOPY—Spectral series; Bohr's atomic theory; vector model of the atom; electron configuration of the elements; spectral terms, selection rules; line spectra; band spectra; prism spectroscopes and spectrographs; diffraction-grating spectrographs; identification of spectrum lines; qualitative spectro-graphic analysis. Prerequisites: 18 sem. hrs. of physics including PH. 405 or its equivalent and calculus or permission of the instructor.

PH. 605. INTRODUCTION TO SOLID STATE PHYSICS—Crystal structure; classification of solids according to binding; propagation of waves in solids; thermal properties; dielectric properties; paramagnetism and diamagnetism; free electron theory of metals; band theory of solids; semiconductors. Prerequisites: 18 sem. hrs. of physics and calculus or permission of the instructor.

PH. 606. PHYSICS SEMINAR—Selected reading, reports, discussion and evaluation of research in physics and the teaching of physics. Prerequisite: a major in physics.

PH. 607. ADVANCED MECHANICS—Kinematics and dynamics of particles and of rigid bodies; the formulations of Lagrange and Hamilton; variational methods in mechanics; central forces; selected applications of the Lagrange and Hamilton formulations to rigid bodies and to systems of particles. Prerequisites: 18 sem. hrs. of physics and calculus or permission of the instructor.

PH. 608. ADVANCED ELECTRICITY AND MAGNETISM—Electric forces and electric fields; electric potential; dielectric theory and behavior; resistance; moving charges and magnetic fields; electromagnetic induction; magnetic properties of matter; Maxwell's equations and electromagnetic waves. Prerequisites: 18 sem. hrs. of physics including PH. 202 or its equivalent and calculus or permission of the instructor.

PH. 609. INTRODUCTORY QUANTUM MECHANICS—Experimental basis for the quantum theory; some basic ideas of probability; the postulates

of quantum mechanics; the Schrodinger equation; solutions to some one-dimensional problems; the hydrogen atom; the matrix formulation of quantum theory; some approximation methods. Prerequisites: 18 sem. hrs. of physics including PH. 406 or its equivalent and calculus or permission of the instructor.

PH. 690. RESEARCH PROJECT IN PHYSICS—A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Division.

PH. 695. RESEARCH THESIS IN PHYSICS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

OTHER SCIENCES

SCI. 401. FIELD STUDIES IN SCIENCE I (g)

SCI. 402. FIELD STUDIES IN SCIENCE II (g)

SCI. 404. REGIONAL STUDY IN SCIENCE (g)

SCI. 405. CONSERVATION WORKSHOP (g)

SCI. 410. SCIENCE IN THE ELEMENTARY CURRICULUM (g)

SCI. 503. ECOLOGY—Scientific nature study, including consideration of the relationships between living things and their physical environment; biological relationships between and within species; man's relationships with the natural environment. For graduate students in Elementary Education; others by permission of instructor. Prerequisites: 5 sem. hrs. in Biology or 6 sem. hrs. in Chemistry.

SCI. 508. SCIENCE AND TECHNOLOGY AND THE WORLD TODAY—Selected areas will be studied which exemplify ways in which science profoundly

affects the world today and which involve the international relations of the United States.

SCI. 518. HUMAN BIOLOGY—Origin and development of the human species; human anatomy and physiology; reproduction, embryology, and life cycle; genetics of man; conservation of human resources; new problems in human biology. Required of all candidates for extension of certification to include the teaching of science in the early secondary school. Prerequisites: 5 sem. hrs. in Biology; 6 sem. hrs. in Chemistry recommended.

SCI. 527. CURRENT RESEARCH IN SCIENCE—Study of current research in the various sciences; implications of such research on present and future living; implications of research in science for the early secondary school science curriculum. Prerequisites: 6 sem. hrs. in each of two sciences.

SCI. 590. SPECIAL PROJECT—Research or investigation of a particular problem, to be planned and carried out by the student, with consultation and guidance from instructor.

SCI. 609. RECENT ADVANCES IN SCIENCE AS APPLIED TO HOME ECONOMICS—New developments in control of food poisonings; study of research in nutritive values of proteins; bacteriology and chemistry of frozen foods; effects of food processing on nutrition; recent research in other areas affecting home economics. For graduate students in the Division of Home Economics only. Lecture, laboratory work.

SCI. 690. PROJECT—A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Division.

SCI. 695. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

SOCIAL STUDIES

ANTHROPOLOGY

ANTH. 402. CULTURAL ANTHROPOLOGY (g)

ECONOMICS

ECON. 401. INTERNATIONAL ECONOMIC RELATIONS OF THE UNITED STATES (g)

ECON. 502. WORKSHOP IN ECONOMICS—Consideration of economic concepts in the curriculum; American economic system; role of government in free enterprise economy; money, banking, and credit; selected group projects in areas of investments, labor-management relations, agriculture, taxation and government finance, economic aspects of foreign policy, economy of the Niagara Frontier, and government regulatory agencies.

ECON. 503. GOVERNMENT AND THE AMERICAN ECONOMY—Economic and political background of the rise, nature, and extent of government aid, promotion, and regulation of the American Economy; economic impact of the Federal Government on business, agriculture, labor, conservation, and world trade; current policies to promote economic growth and stability.

ECON. 505. STUDIES IN CONTEMPORARY ECONOMIC PROBLEMS—International trade; international finance; inflation; labor legislation; problems of labor and management; price levels.

HISTORY

HIST. 401. AMERICAN EXPANSION SINCE 1783 (g)

HIST. 402. HISTORY OF THE SOVIET UNION (g)

HIST. 403. HISTORY OF AMERICAN FOREIGN RELATIONS (g)

HIST. 404. THE SOUTH, SECTIONALISM, AND THE CIVIL WAR (g)

HIST. 405. THE RENAISSANCE AND REFORMATION (g)

HIST. 406. THE FRENCH REVOLUTION AND NAPOLEON (g)

HIST. 407. GERMANY SINCE 1871 (g)

HIST. 408. HISTORY OF AMERICAN THOUGHT (g)

HIST. 413. HISTORY OF RUSSIA TO 1917 (g)

HIST. 500. STUDIES IN TWENTIETH CENTURY AMERICAN HISTORY—Aspects of American life since 1900; significant trends, policies, and ideas in politics, diplomacy, and national culture; topics for study dictated by student needs and interests.

HIST. 501. STUDIES IN TWENTIETH CENTURY EUROPEAN HISTORY—Study of a central theme selected by instructor and class, such as: modern political ideologies; international relations; individual country, region, or period.

HIST. 502. THE UNITED STATES AND ITS INTER-AMERICAN RELATIONS—American policies toward the Latin American Republics and the Dominion of Canada; recognition; Monroe Doctrine; imperialism; peaceful settlement; cultural interchange; hemisphere security; regionalism.

HIST. 503. SOCIAL AND INTELLECTUAL HISTORY OF THE UNITED STATES—Social roots of systems of thought; effect of ideas upon American society; continuing patterns of thought, such as Puritanism: liberalism, democracy; contributions of intellectual leaders.

HIST. 504. HISTORY OF THE AMERICAN FRONTIER—Progress of settlement from the Atlantic to the Pacific; transmission of culture; developments in transportation: the process of state-making; transition from agrarian to urban communities; social, economic, and political effects of the westward march upon the United States as a whole.

HIST. 505. STUDIES IN AMERICAN COLONIAL HISTORY—Comparison of colonial policies pursued by European powers in the New World; modification in a new environment of such transplanted elements as the family, church, schools, economy, and government.

HIST. 506. PROBLEMS OF CONTEMPORARY ENGLAND—Rise of trade unions; industrial and labor relations; career of the Labor Party; programs for social democracy; the changing world position of England.

HIST. 507. THE UNITED STATES IN CONTEMPORARY WORLD AFFAIRS—United States foreign policy; United States and the United Nations;

Atlantic and Pacific commitments; internal problems such as defense, production, inflation, and taxation.

HIST. 508. REFORM AND REFORMERS IN AMERICAN CIVILIZATION—Economic and social *milieu* creating need for reform; personality characteristics of reform leaders; structure and operations of reform movements; selected reform movements and periods of widely-sponsored reform sentiment; changes wrought in American society.

HIST. 609. LOCAL HISTORY: RESEARCH METHODS AND TECHNIQUES—Research involved in the study and presentation of local history, with special reference to the Niagara Frontier and New York State; community facilities; discovery, examination, and use of original materials.

POLITICAL SCIENCE

P.S. 403. HISTORY OF POLITICAL THEORY (g)

P.S. 506. INTERNATIONAL RELATIONS IN THE WORLD TODAY—Topics such as international organization, international law, regionalism, economic development, role of ideologies, or relationship of domestic and international politics.

P.S. 507. THE CONSTITUTION: POLITICS AND COURTS—Foundations of American constitutionalism and the politics of the Constitution; establishment of judicial review and its functions through history; the evolution of Federal power over interstate commerce and taxation; federalism, separation of powers, and states rights through history; courts and the protection of individual rights — civil, political, and property.

P.S. 508. CONTEMPORARY EUROPEAN POLITICAL MOVEMENTS—Party ideologies, organization, parliamentary tactics, propaganda, campaigns, electoral geography, and social composition; party systems, individual parties, and pressure groups.

P.S. 509. CASE STUDIES IN LOCAL GOVERNMENT AND POLITICS—Structure and practice; revenues and expenditures; public housing, health, and welfare; planning and zoning; educational-political relationships; topics selected in accordance with student needs and interests.

SOCIAL STUDIES

S.S. 401. POLITICAL BEHAVIOR AND PUBLIC OPINION (g)

S.S. 502. WORKSHOP IN METHODS AND MATERIALS IN THE SOCIAL STUDIES—Consideration of unit, topic, discussion, project, problem, and laboratory methods; teaching aids such as film strips; pictures, models, and library reference materials; types of evaluation.

S.S. 504. STUDIES IN NON-WESTERN CULTURES: THE MIDDLE EAST—An area study of characteristic cultural features of the countries; examples of inter-action with the Western world; cultural and social changes underway; examples of problems typical of the underdeveloped nations in the world today.

S.S. 590. SPECIAL PROJECT—Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

S.S. 690. PROJECT—A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Division.

S.S. 695. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

SOCIOLOGY

SOC. 401. JUVENILE DELINQUENCY (g)

SOC. 403. CONTEMPORARY SOCIOLOGICAL THEORY (g)

SOC. 501. CONTEMPORARY SOCIAL PROBLEMS—Problem areas of American society; sources of information; techniques for discovering and analyzing social problems; analysis of several major problems, selected in accordance with student needs and interests.

SOC. 503. SOCIOLOGY OF CRIME — Nature and extent of crime; causes, conditions and theories regarding crime; administration of justice; treatment of criminals; crime prevention.

SOC. 505. POPULATION ANALYSIS AND PROBLEMS—United States and world populations; quantity increase and decrease, distribution, migration, and composition of population; bearing of these factors upon economic, political, and social problems and upon social values, action, and structure.

SOC. 506. MINORITY GROUPS IN AMERICAN CULTURE—Major racial, nationality, and religious minority groups in America treated from the cultural, historical, and familial points of view; current anthropological and psychological data on uniformities, differences, prejudices, and discrimination.

VOCATIONAL TECHNICAL

V.T. 590. SPECIAL PROJECT—Research or investigation of a particular problem, to be planned and carried out by the student, with consultation and guidance from the instructor.

V.T. 595. RESEARCH IN VOCATIONAL TECHNICAL EDUCATION—Problems in the reorganization of vocational technical education programs in the light of changing social and industrial conditions; community and industrial surveys, curriculum content, possibilities in part-time cooperative arrangement, apprenticeship agreements. Discussions, lectures, visits to plants and schools. An opportunity for advanced students of vocational technical education to make practical field studies under supervision. Among the fields represented will be aviation, marine engineering, automobile mechanics, building trades, metal trades, service trades, and other newer developments in specialized fields.

V.T. 601. SUPERVISION OF VOCATIONAL EDUCATION—Nature and scope of supervision; surveying, studying, analyzing needs and facilities; planning, initiating, and maintaining supervisory programs; evaluating procedures and outcomes, oncoming development in Vocational Technical Education.

V.T. 602. ADMINISTRATION OF VOCATIONAL EDUCATION—Nature and scope of vocational technical education; administrative aspects of curriculum, student selection, rating, integration with industry, advisory boards, community relationships, state and federal authorities.

V.T. 615. SUPERVISED PROFESSIONAL EXPERIENCES IN THE ADMINISTRATION OF VOCATIONAL EDUCATION—An opportunity for a limited number of persons to secure, under guidance, experience in administrative situations in vocational programs.

V.T. 620. ORGANIZATION OF PROGRAMS OF VOCATIONAL TECHNICAL EDUCATION FOR IN-SCHOOL YOUTH, OUT-OF-SCHOOL YOUTH AND ADULTS—A study of the structure of a comprehensive program of vocational technical education with particular reference to the objectives and organization of the various types of courses and services needed in preparing for and making progress in a skilled occupation or technical field. Consideration will be given to the effect that technological developments will have on existing programs.

V.T. 630. INDIVIDUALIZING INSTRUCTION IN VOCATIONAL TECHNICAL EDUCATION—The need for individualizing instruction in trade and technical courses and the purposes to be achieved by an individualized approach. Methods and devices for such instruction, the preparation of appropriate material, and methods for evaluating the results of individualized instruction.

V.T. 635. LABORATORY IN CURRICULUM PROBLEMS OF VOCATIONAL SCHOOLS—A course planned to fit the needs of vocational technical education instructors in the preparation and use of instructional material for vocational technical training.

V.T. 640. TESTING AND MEASUREMENT IN VOCATIONAL TECHNICAL EDUCATION — A study of the elements to be measured in the teaching of vocational technical subjects, together with the application of sound testing procedures to the teaching of shop subjects, technical and related technical subjects. Development of test materials to meet individual teaching situations.

V.T. 645. CURRENT CONCEPTS IN VOCATIONAL EDUCATION—A problems course dealing with basic issues in vocational technical education; studies relating to need, purpose, financial support and evaluations of vocational technical education; duties and responsibilities of specialized personnel for teaching, supervising, and administering such programs.

V.T. 603. SELECTED TOPICS IN THE ORGANIZATION, ADMINISTRATION AND SUPERVISION OF VOCATIONAL TECHNICAL EDUCATION—Problems arising in the organization, administration, and supervision of vocational technical education.

V.T. 610. COORDINATION IN VOCATIONAL AND PRACTICAL ARTS EDUCATION—The course will analyze the philosophy, organization and procedures involved in adjusting the local vocational program to the current and anticipated employment requirements for youth and adults in business and industry. Particular attention will be given to the recent reports of the National Manpower Council, Area Redevelopment Act, Manpower Development Training Act.

V.T. 650. ORGANIZATION OF VOCATIONAL TECHNICAL COOPERATIVE PROGRAMS—Provides information for industrial arts or trade teachers and department chairmen or supervisors interested in establishing industrial cooperative programs. Included are procedures for promoting a new program, working with advisory boards, developing employment opportunities, arranging training outlines, planning instructional facilities and securing Regents accreditation.

V.T. 655. OPERATION OF VOCATIONAL TECHNICAL COOPERATIVE PROGRAMS — A course for those interested in conducting effective instruction in an industrial cooperative program, including how to interview employers, supervise trainees, interpret legal aspects, prepare records and reports, and conduct classes in related theory.

V.T. 660. VOCATIONAL CURRICULUM LABORATORY—A laboratory course in which experienced teachers may identify and develop curriculum materials for various levels and types of vocational technical education programs. Projects may be undertaken in trade, technical, occupational extension or apprentice education. Syllabi, content outlines, basic curriculums, instructional and teacher education materials will be developed. Special attention will be given to those who wish guidance in the solution of vocational curriculum problems for their communities.

Participants will be required to submit a preliminary plan of a curriculum problem for approval in advance and carry it through to completion in the course. The major portion of the instruction will be on an individual basis. Enrollment by permission only.

V.T. 665. SEMINAR IN VOCATIONAL TECHNICAL EDUCATION—Discussions and reports on selected major aspects of vocational technical education including relation of vocational technical education to education in general, need for and purposes of vocational technical education, types, levels and trends, evaluation, the vocational technical teacher as a guide in the learning process, and unique functions of vocational technical teachers.

V.T. 670. ADVANCED SEMINAR IN THE ADMINISTRATION OF VOCATIONAL TECHNICAL EDUCATION—Opportunities, duties and responsibilities of administrators of vocational technical programs. For persons preparing for positions as supervisors and directors of various phases of vocational technical education.

STATE UNIVERSITY COLLEGE
1300 Elmwood Avenue
Buffalo, New York 14222

APPLICATION FOR ADMISSION TO GRADUATE DIVISION

N.B. THIS FORM MUST BE FILED AT LEAST ONE MONTH IN ADVANCE OF REGISTRATION BY ALL STUDENTS WHO WISH TO REGISTER FOR COURSES AT THE GRADUATE LEVEL.

Mr.
Miss
Name Mrs. _____

DATE _____

(Enter here any other name under which you have been registered.)

PRESENT ADDRESS _____
ST. & NO. CITY ZONE STATE

PERMANENT ADDRESS _____
ST. & NO. CITY ZONE STATE

TELEPHONE NO. _____

DATE OF BIRTH _____ CITIZENSHIP _____
MONTH DAY YEAR

CIRCLE THE CURRICULUM TO WHICH YOU SEEK ADMISSION

ART EDUCATION
ELEMENTARY EDUCATION
EXCEPTIONAL CHILDREN EDUC.
INDUSTRIAL ART EDUCATION

HOME ECONOMICS
ELEMENTARY PRINCIPALSHIP
ELEMENTARY SUPERVISION
VOCATIONAL TECHNICAL

SECONDARY EDUCATION
ENGLISH
MATHEMATICS
SCIENCE
SOCIAL STUDIES

UNDERGRADUATE PREPARATION

COLLEGE AND UNIVERSITY	FROM	TO	WORK COMPLETED, CERTIFICATE OR DEGREE, AND DATES

GRADUATE PREPARATION

(UP TO 8 HOURS OF APPROVED GRADUATE CREDIT MAY BE TRANSFERRED.)

COLLEGE AND UNIVERSITY	FROM	TO	WORK COMPLETED, CERTIFICATE OR DEGREE, AND DATES

TEACHING CERTIFICATION

CERTIFICATION (FIELD OF SPECIALIZATION)	DATE OF ISSUE	STATE WHERE VALID

TEACHING EXPERIENCE

ASSIGNMENT	PLACE	DURATION	NAME, POSITION AND ADDRESS OF PERSON ACQUAINTED WITH YOUR WORK

(OVER)

OTHER WORK EXPERIENCE

OTHER TYPES OF ASSIGNMENT	PLACE	DURATION	NAME, ADDRESS AND POSITION OF PERSON ACQUAINTED WITH YOUR WORK

WRITE BRIEFLY ABOUT YOUR PROFESSIONAL INTERESTS AND PURPOSES _____

DESCRIBE YOUR PLANS FOR GRADUATE STUDY (time to be used for it, field of special interest, other fields of study planned, etc.)

DO YOU INTEND TO APPLY FOR CANDIDACY FOR THE MASTER'S DEGREE WHEN THE REQUIREMENTS HAVE BEEN COMPLETED? YES _____;
NO _____; UNCERTAIN _____. ARE YOU WORKING FOR A DEGREE AT ANOTHER COLLEGE? YES _____; NO _____.

CONFIDENTIAL REPORT OF SUPERINTENDENT OR PRINCIPAL*

ASK YOUR PRINCIPAL OR SUPERINTENDENT TO SUBMIT A CONFIDENTIAL REPORT ON A FORM WHICH CAN BE OBTAINED FROM THE GRADUATE DIVISION OFFICE.

REFERENCES *

YOU SHOULD PERSONALLY ARRANGE FOR THREE QUALIFIED PERSONS OTHER THAN YOUR SUPERINTENDENT OR PRINCIPAL TO WRITE AT ONCE TO THE DIRECTOR, GRADUATE DIVISION, STATE UNIVERSITY COLLEGE, BUFFALO, NEW YORK 14222, REGARDING YOUR FITNESS TO ENTER GRADUATE STUDY.

TRANSCRIPTS *

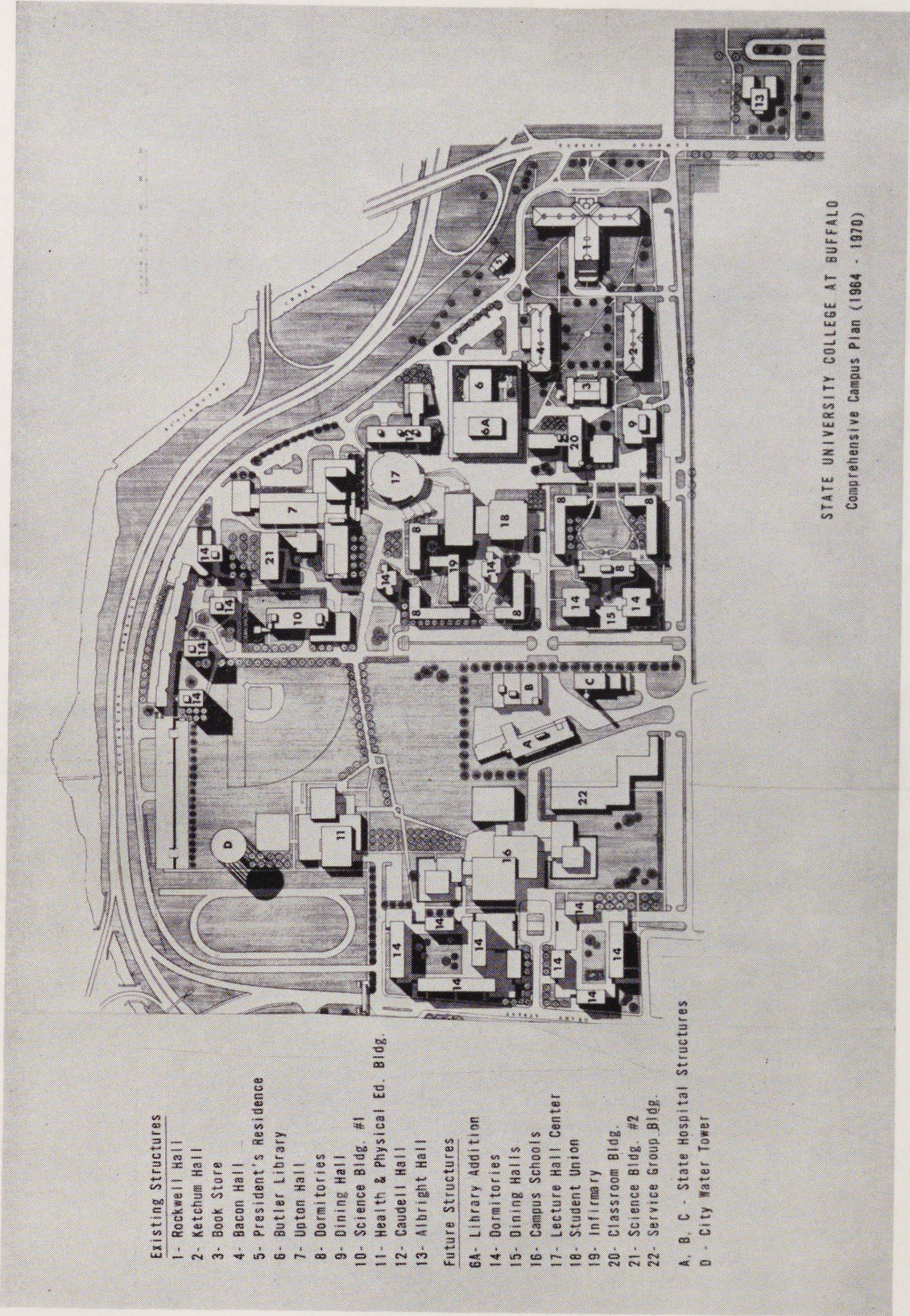
ARRANGE THAT OFFICIAL TRANSCRIPTS OF ALL COLLEGE AND UNIVERSITY WORK, EXCEPT FOR WORK DONE AT THIS INSTITUTION, BE SENT BY THE RESPECTIVE INSTITUTION TO DIRECTOR, GRADUATE DIVISION, STATE UNIVERSITY COLLEGE, BUFFALO, NEW YORK 14222.

NOTICE

AS SOON AS ALL OF THE ABOVE COMMUNICATIONS HAVE BEEN RECEIVED YOU WILL BE NOTIFIED IMMEDIATELY OF YOUR ADMISSION STATUS. AT THAT TIME YOU WILL BE INVITED TO SELECT AN ADVISER TO GUIDE YOUR GRADUATE PROGRAM. YOU ARE URGED TO COMPLETE CREDENTIALS AT THE EARLIEST POSSIBLE MOMENT SO THAT YOU MAY HAVE THE BENEFIT OF AN ADVISER EARLY IN YOUR GRADUATE STUDIES. IF SUCH NOTIFICATION DOES NOT REACH YOU WHEN YOU EXPECT IT, YOU SHOULD CHECK TO BE SURE THAT ALL THE REQUESTED INFORMATION HAS BEEN MAILED TO THE COLLEGE.

N.B. MAIL THIS FORM TO: DIRECTOR, GRADUATE DIVISION
STATE UNIVERSITY COLLEGE
1300 ELMWOOD AVENUE
BUFFALO, NEW YORK 14222

* REQUIRED OF STUDENTS SEEKING FULL GRADUATE STANDING AND ACCEPTANCE AS A CANDIDATE FOR THE MASTER OF SCIENCE DEGREE. NOT REQUIRED OF SPECIAL STUDENTS WORKING FOR CERTIFICATION AND NOT EXPECTING TO APPLY FOR THE MASTER OF SCIENCE DEGREE.



STATE UNIVERSITY OF NEW YORK

Central Administrative Office: Albany 1, N.Y.

UNIVERSITY CENTERS State University at Albany
State University at Buffalo
State University at Stony Brook

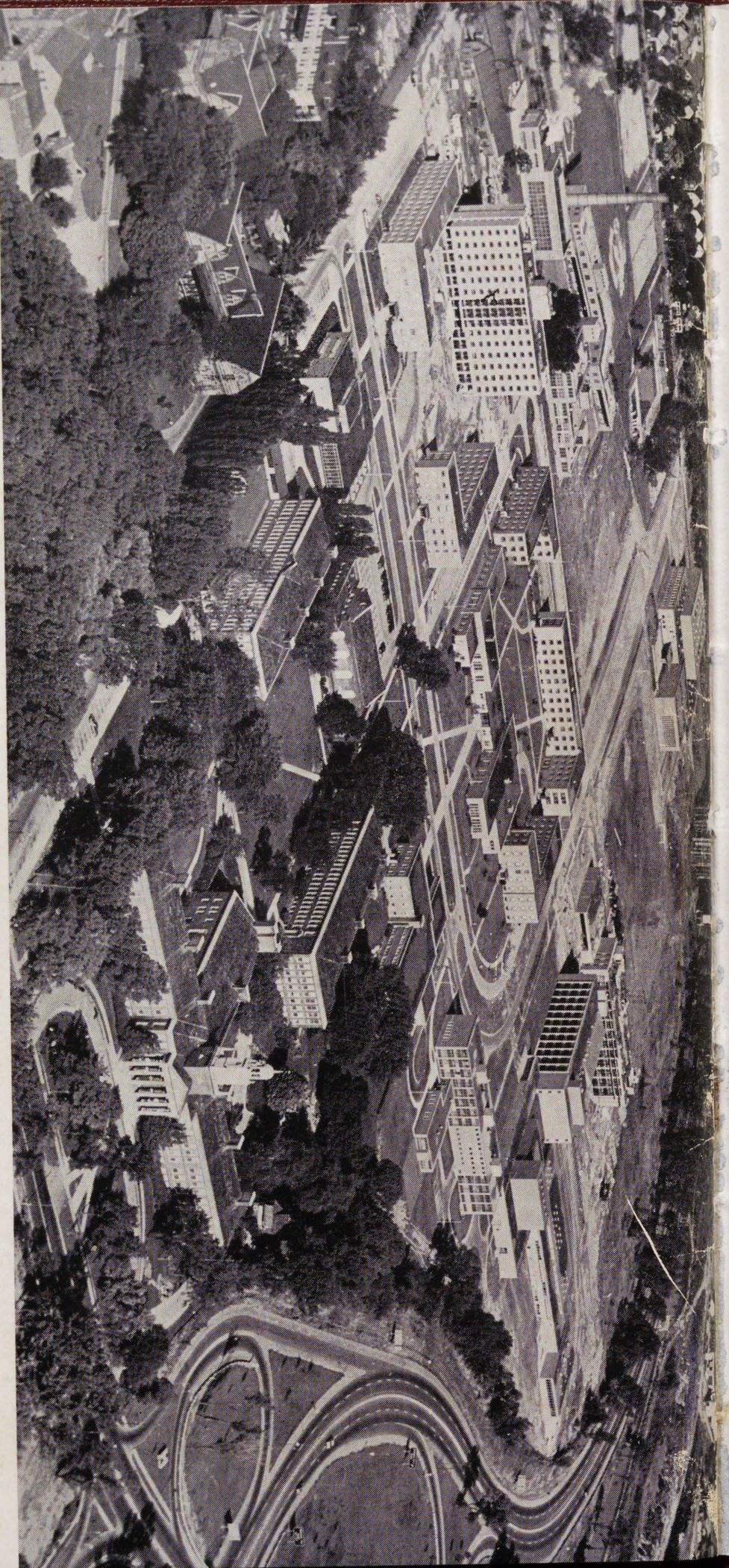
MEDICAL CENTERS Downstate Medical Center at Brooklyn (New York City)
Upstate Medical Center at Syracuse

GRADUATE SCHOOL Graduate School of Public Affairs at Albany

COLLEGES College at Brockport College at New Paltz
College at Buffalo College at Oneonta
College at Cortland College at Oswego
College at Fredonia College at Plattsburgh
College at Geneseo College at Potsdam
Harpur College at Binghamton
College of Forestry at Syracuse University
Maritime College at Fort Schuyler (Bronx)
College of Ceramics at Alfred University
College of Agriculture at Cornell University
College of Home Economics at Cornell University
Veterinary College at Cornell University

TWO-YEAR COLLEGES Agricultural and Technical Institutes at: Alfred Delhi
Canton Farmingdale
Cobleskill Morrisville

COMMUNITY COLLEGES Adirondack Community College at Hudson Falls
Auburn Community College at Auburn
(Locally-sponsored two-year colleges under the program of State University) Borough of Manhattan Community College at New York City
Bronx Community College at New York City
Broome Technical Community College at Binghamton
Corning Community College at Corning
Dutchess Community College at Poughkeepsie
Erie County Technical Institute at Buffalo
Fashion Institute of Technology at New York City
Fulton-Montgomery Community College at Johnstown
Hudson Valley Community College at Troy
Jamestown Community College at Jamestown
Jefferson Community College at Watertown
Kingsborough Community College at Brooklyn
Mohawk Valley Community College at Utica
Monroe Community College at Rochester
Nassau Community College at Garden City
New York City Community College of Applied Arts and Sciences at Brooklyn
Niagara County Community College at Niagara Falls
Onondaga Community College at Syracuse
Orange County Community College at Middletown
Queensborough Community College at New York City
Rockland Community College at Suffern
Staten Island Community College at New York City
Suffolk County Community College at Selden
Sullivan County Community College at South Fallsburg
Ulster County Community College at Kingston
Westchester Community College at Valhalla



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